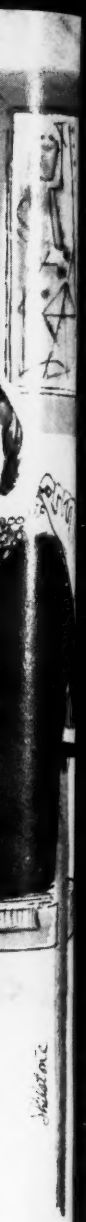

Public Utilities

Volume 60 No. 10 November 7, 1957

A REGION LOOKS TO ITS POWER SUPPLY
By Allen S. King

« »

Engineers as Regulatory Commissioners
Part I.
By Lincoln Smith

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Government Debt in a Free Economy
By Cecil L. Dunn

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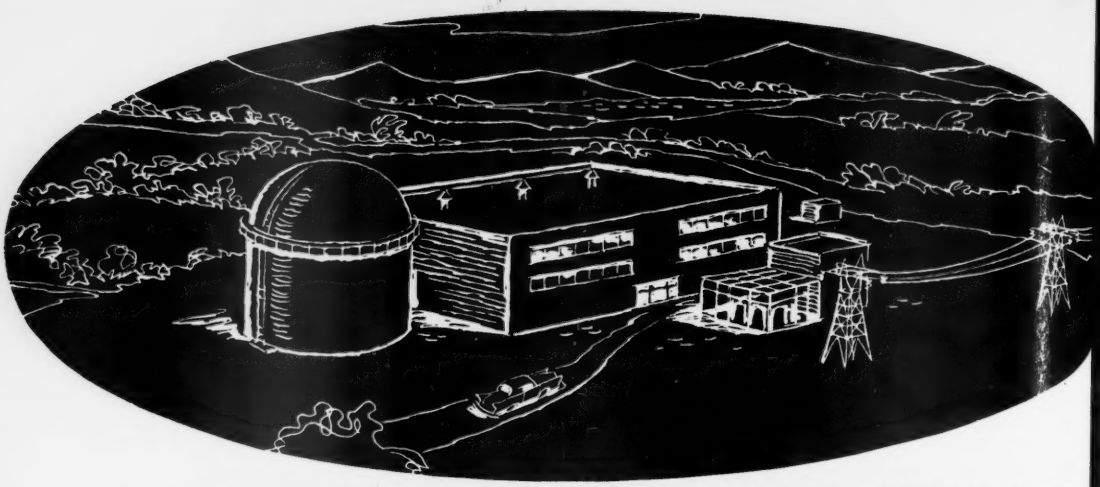
London Addresses on Public Utility Problems—
Public Utility Law Section—American Bar
Association—Appendix



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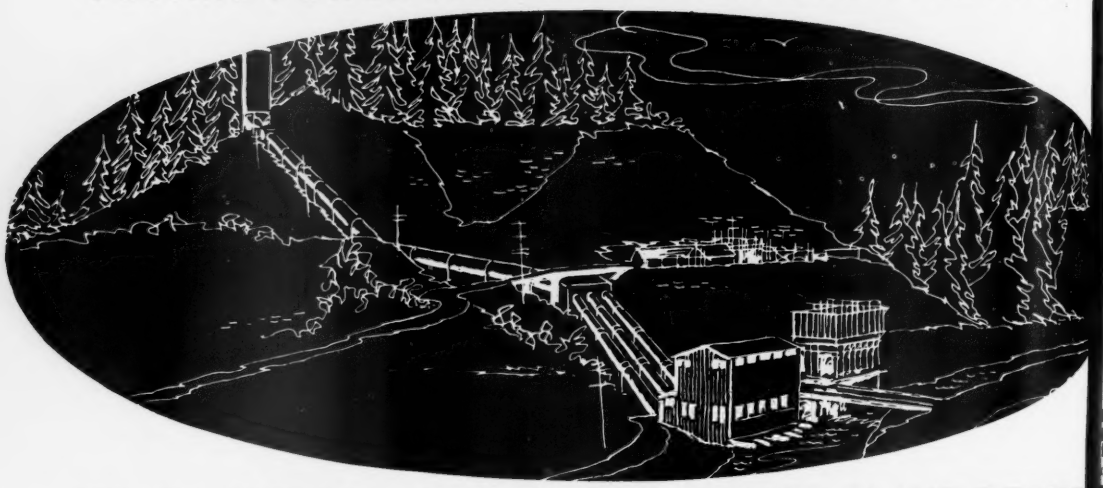

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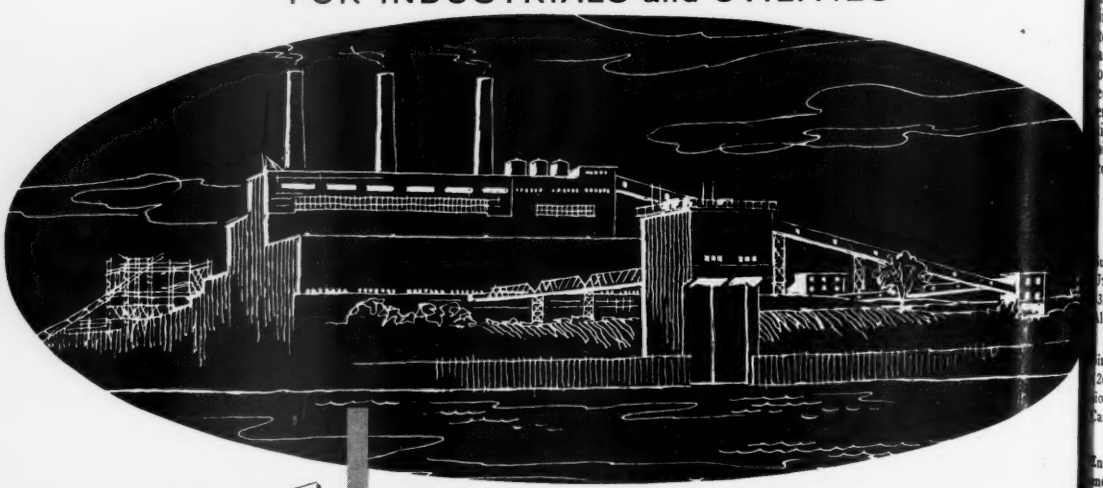

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Public Utilities FORTNIGHTLY

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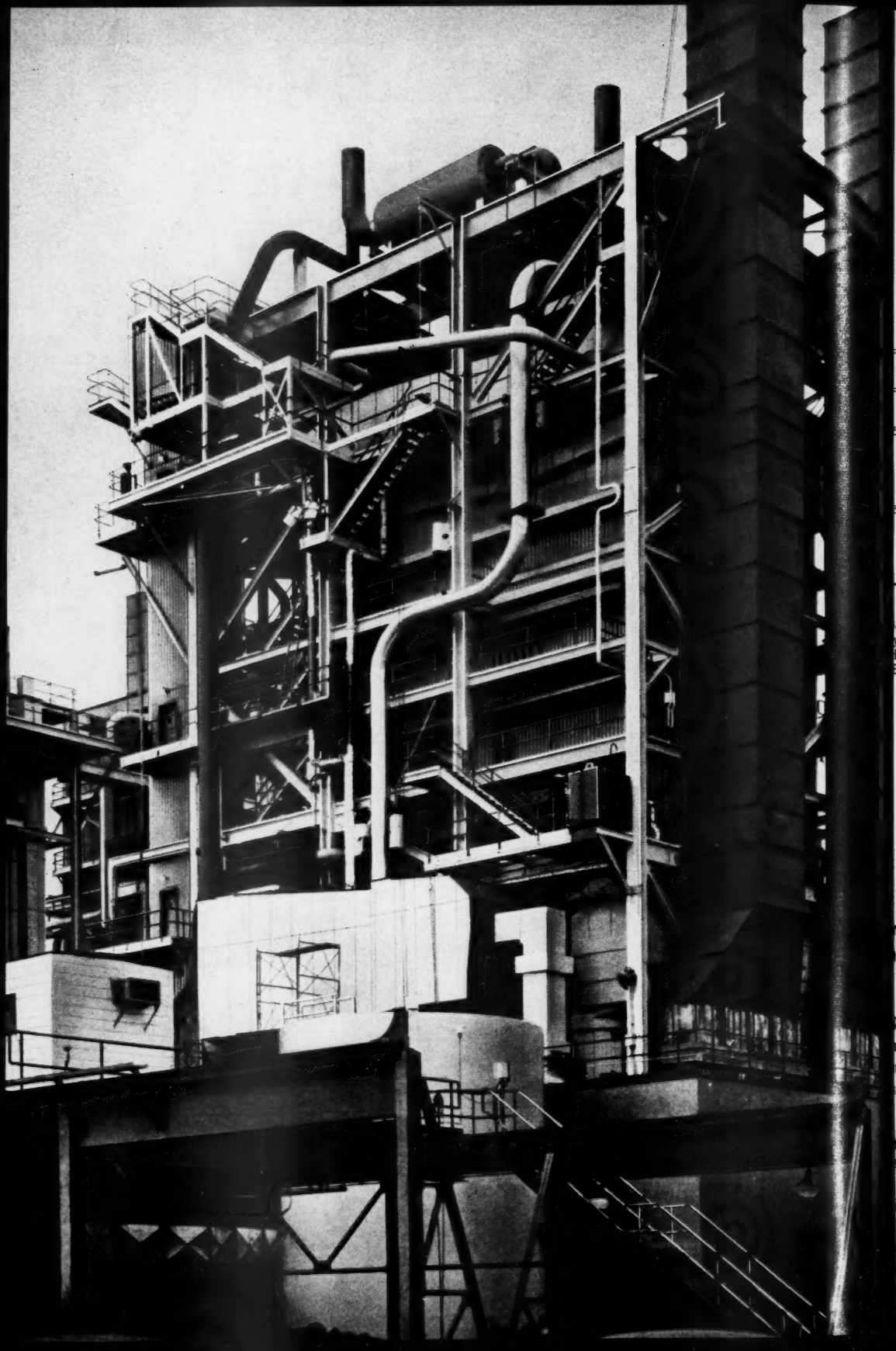

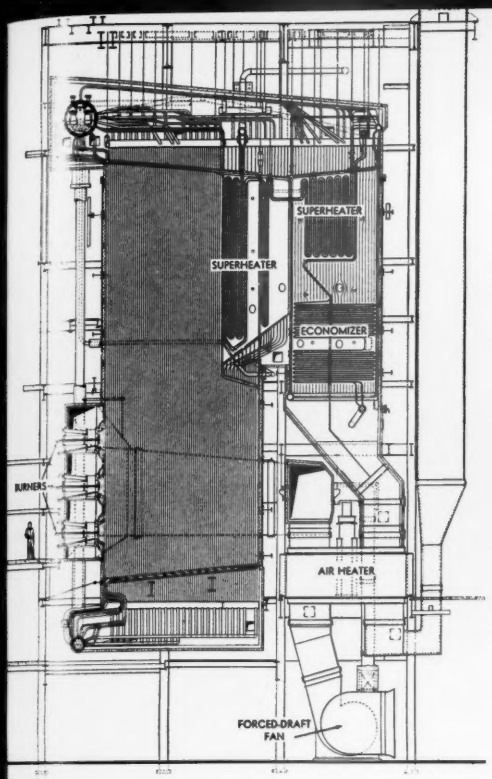

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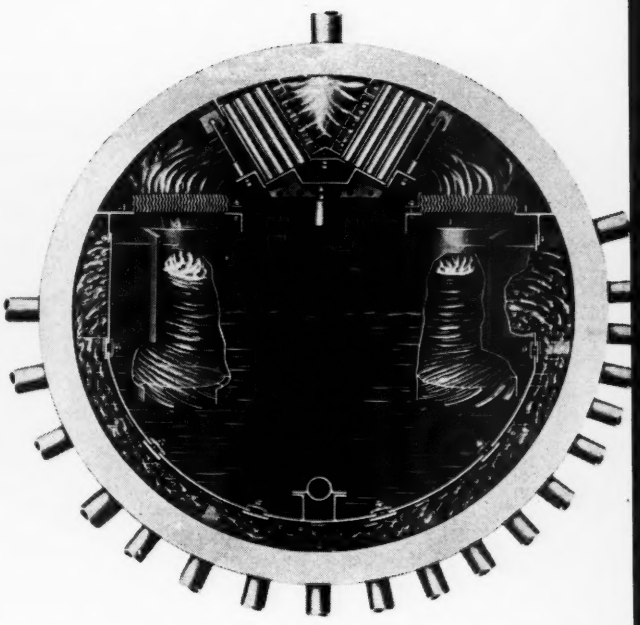

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unit at Parkdale Station with B&W ne Steam Separators provides clean, igh purity steam. Provisions in design for future coal firing

V Pressurized-Furnace Boiler, the third at Park- tion, has gone on the line for the Dallas Power t Company. The latest unit, now fired by gas ign provisions for future addition of a hopper and division wall for coal firing.

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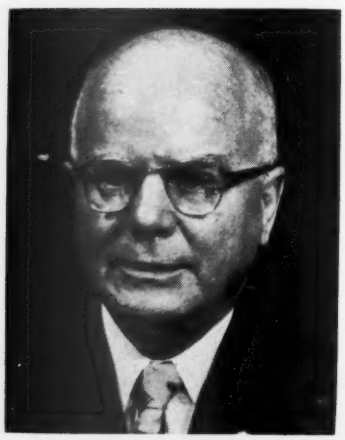
Pages with the Editors

A RECENT survey of future population growth in the United States by the Chase Manhattan Bank places a striking emphasis on the volume of energy that will be needed to take care of this enlarged population and the amount of economic activity associated with such growth.

ON a 10-year basis a consensus of several estimates from both private and public sources indicates that the nation's population may increase from 168 million in 1956 to 197 million by 1966. That would represent an average annual increment of 1.6 per cent. But that does not tell the entire story of energy needs. The passage of time and the forward march of technology have led to steady improvements in the nation's standard of living. Since there is no evidence that this progress will not continue, it is reasonable to assume that economic activity will increase at a faster pace than population growth.

As a matter of fact, energy consumption in the United States has expanded at an average rate of 3.3 per cent a year since the end of the war compared with the population average growth of 1.6 per cent. And so the Chase Manhattan study of total energy needs from all sources—petroleum, natural gas, coal, water power—projects



ALLEN S. KING

CECIL L. DUNN

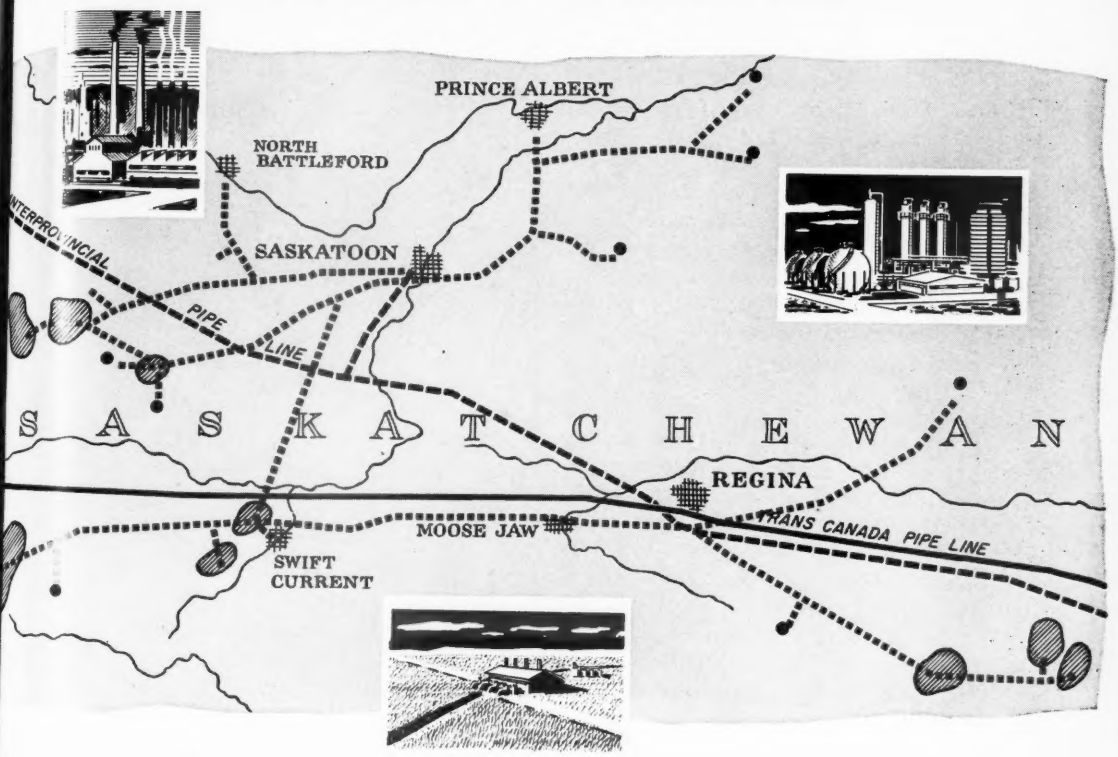
an increase averaging 3.8 per cent a year for the next decade. Expressed in terms of British thermal units, this would mean that by 1966 the national energy consumption would rise to 61 quadrillion Btu from a 1956 level of about 42 quadrillion.

FOR the electric industry the coming decade is certain to be complicated by basic changes, not only in techniques but perhaps in fuel supply. The importance of coal and oil as primary fuels is clearly on the rise. The responsibility of water power, due to the approaching saturation of the better site developments, would appear to be leveling off. The use of natural gas would appear to be rising faster than ever, as a primary fuel. The rôle of nuclear energy, still virtually in the experimental stage, remains a question.

ELECTRIC utility companies confronted with the responsibility of providing power supply for some areas are finding it necessary and desirable to co-operate in planning development and operation with public and semipublic agencies. REA co-operatives and government-owned and -operated utilities have the same service goal as the business-managed companies, which is to improve the operating efficiency of each power supplier.

THE opening article in this issue dis-

how Fish Service Corporation helped POWER A PROVINCE



TO BRING NATURAL GAS from the wellhead into the homes and industries of Canada's Saskatchewan Province was a vast undertaking. It required the skills of the entrepreneur, economist, draftsman, designer, diplomat, engineer, surveyor and a hundred more. The Saskatchewan Power Corporation called upon Fish Service Corporation for assistance in fusing these many skills into a meaningful whole.

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cusses such regional responsibility. The author is the president of Northern States Power Company, ALLEN S. KING, a graduate of Massachusetts Institute of Technology (EE, '22). MR. KING has spent virtually his entire professional career to date with Northern States Power. His first engineering assignment was in Fargo, North Dakota, where he rose to the post of division manager for the state by 1945. He was elected executive vice president in 1951 and president in 1954. He is a member of the Edison Electric Institute and active in other professional and business organizations.

* * * *

THE two-part article which begins on page 718 deals with engineers as regulatory commissioners. It comes to us from DR. LINCOLN SMITH, who has made an extensive study of the background of our state regulatory commissions. He has taken up the question of the engineer's rôle in a modern state commission. Is it of advantage to have an engineer on the commission itself, or does the engineer function more efficiently as a specialist staff official? DR. SMITH, a native of Maine and a graduate of Bowdoin College, holds a PhD degree in political science from the University of Wisconsin. He is a specialist in public law and public administration, and has written one book and many articles on the subject of regulatory administration. He is now teaching political science at New York University and pursuing research work.

* * * *

GOVERNMENT debt and inflation are subjects of continual interest in view of the current tight money policy and seem to be of increasing concern to operating utilities. The article beginning on page 728, dealing with postwar inflation as a central problem of public utility economics, comes to us from CECIL L. DUNN, manager of the rate department of Southern Counties Gas Company of California. Prior to joining that company as a financial analyst in 1952, DR. DUNN was for eight years professor of economics and chairman of the economics department of Occidental College in Los Angeles. He is a graduate of the University of Southern

LINCOLN SMITH

California and has his Master's and Doctor's degrees from Claremont Graduate School.

* * * *

IN this issue, beginning on page 786, appears the text of the addresses given before the London, England, sessions of the Section of Public Utility Law held last July in conjunction with the annual convention of the American Bar Association. As readers of this publication are now aware, the Section of Public Utility Law held sessions in two cities and two countries. Addresses before the New York city sessions were published in the September 26th issue. The London addresses, which were delivered on July 26th, appear in the Appendix in this issue, with the exception of an address by the Honorable Leslie F. Stemp, which appeared in the October 10th issue.

IT might be noted that the international flavor of these Bar Association meetings seemed to be very popular with the membership. New friendships were formed between the legal fraternities of both nations, and it is hoped a basis of mutual understanding was laid which will strengthen professional ties in both countries through their common legal heritage.

THE next number of this magazine will be out November 21st.

The Editors

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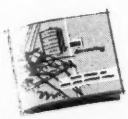

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CRISIS IN BOND FINANCE

Within the framework of our free society the only way to relate savings to capital demand has been through the interest rate. While this process involves dislocations from time to time, deviation from an orderly system is likely to change our economic structure as well as our free society over a long run. Fergus J. McDiarmid, vice president of The Lincoln National Life Insurance Company, tells why we face a real crisis in preserving relatively stable money. His article stresses the equities involved in call premiums with relation to public utility bond financing.

ENERGY—ITS USE AND ABUSE

The ages of man are known by the principal materials that support them: the Stone Age, the Bronze Age, the Iron Age. Our age will probably be known as the Steel Age, but we live also in the era of fossil fuel energy, the driving force of our complicated steel machines. The Honorable William R. Connole, member of the Federal Power Commission, gives us a broad picture of regulatory and economic problems involved in the conservation and exploitation of energy, with special reference to natural gas.

ENGINEERS AS REGULATORY COMMISSIONERS. PART II.

This is the second instalment of an analytical discussion of an important organization problem involved in the make-up of our state commissions. Dr. Lincoln Smith, who has made an extensive study of the professional background and organization of our state regulatory commissions, has taken up the question of the engineer's rôle in a modern state regulatory commission. Is it of advantage to have an engineer on the commission itself, or does the engineer function more effectively as a specialized staff official?

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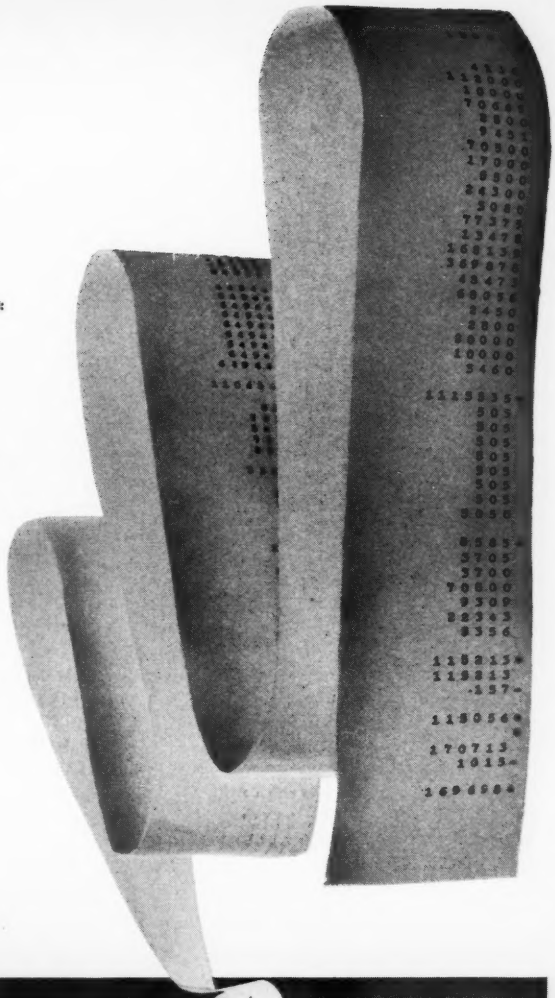

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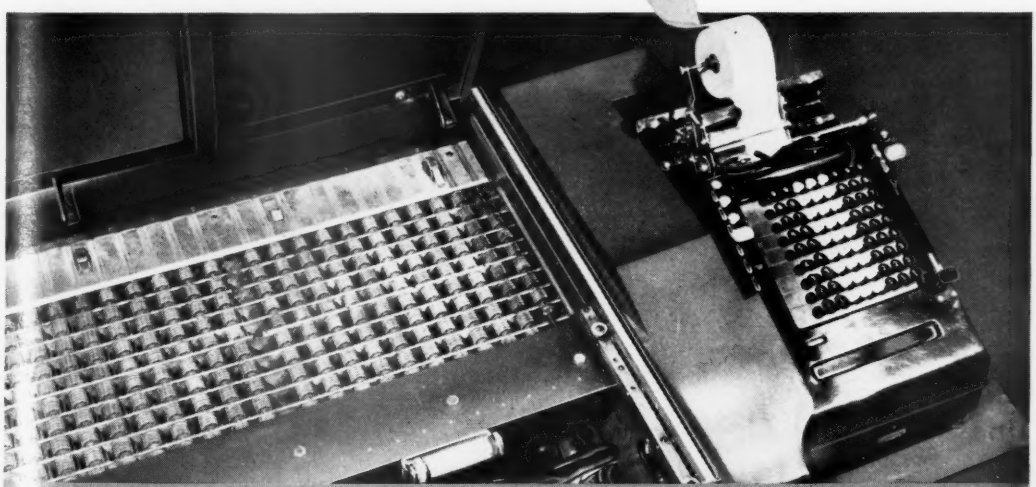

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PHILIP M. TALBOTT
President, Chamber of Commerce of the United States.

"The government today should be thinking of collecting an increasing amount of money for its needs from a low rate of taxation applied to a rapidly expanding economy. Instead, it is collecting a small amount of money from high rates that put a drag on the economy's expansion, and are actually drying up the wells of progress."

M. S. RUKEYSER
Columnist.

"Some overlook that intangibles, such as regulatory techniques and ideas . . . lose touch with current events, and should be scrapped or revised in keeping with changing needs and conditions. The freezing of old decrees can prove a handicap to the effort of alert businessmen to provide optimum wages to employees while giving better values to customers."

ROBERT J. BLAKELY
Vice president, Fund for Adult Education.

"We are in a period in which the individual is being increasingly looked upon only as a part of the environment. This is ironic because this comes at a time when man has the most control over his environment. We are in a period of reaction against individuality. We are in a period of stress upon socialization and equality, and we are getting mediocrity."

THOMAS B. STANLEY
Governor of Virginia.

"I am in accord with the principles which have been responsible for the establishment and development of our incomparable system of free enterprise. I am glad to see the Virginia Electric & Power Company, and other private power companies, not only expressing their readiness to undertake the construction of generating plants needed to meet the service demands of their territories but asserting their right to do so."

LEWIS L. STRAUSS
Chairman, Atomic Energy Commission.

"The choice is whether the peaceful uses of atomic energy are to be developed in the framework of the competitive economic system—and thus benefit from the rapid expansion and cost-cutting incentives such as have characterized the iron and steel industry—or whether the atomic energy industry is to lapse back into the embrace of government, with all that is entailed in so doing. . . . Government and industry must work hand in hand in developing the atom's peaceful uses, including government assistance through research and experimental development for the benefit of all industry. . . . The question is not whether the government is to play a rôle, but how dominant a rôle and by what methods . . . "

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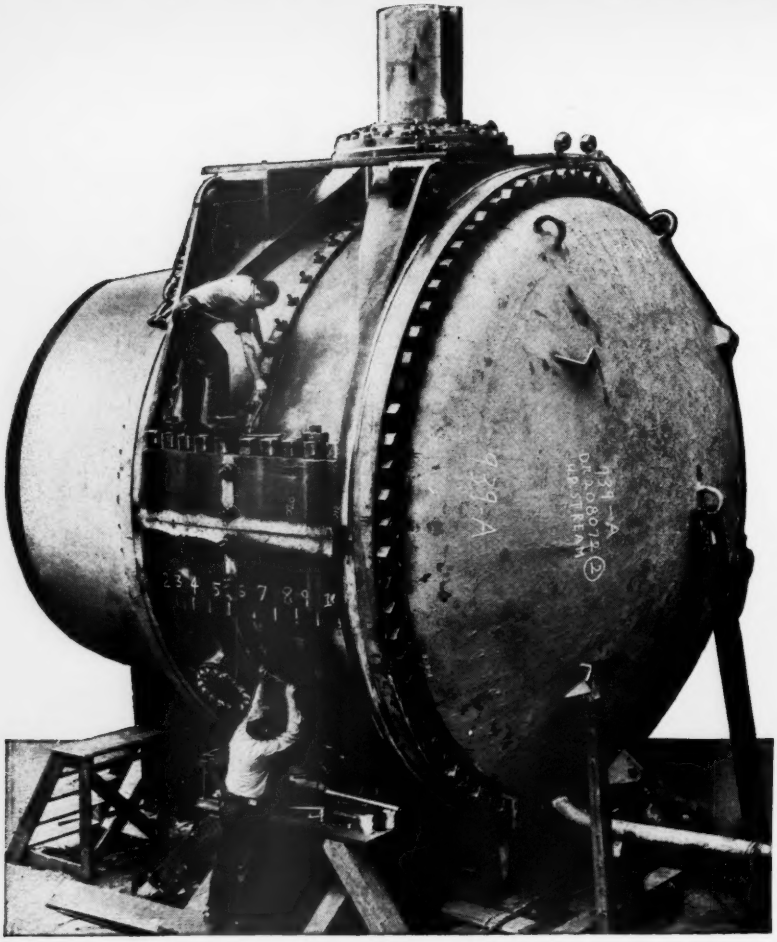

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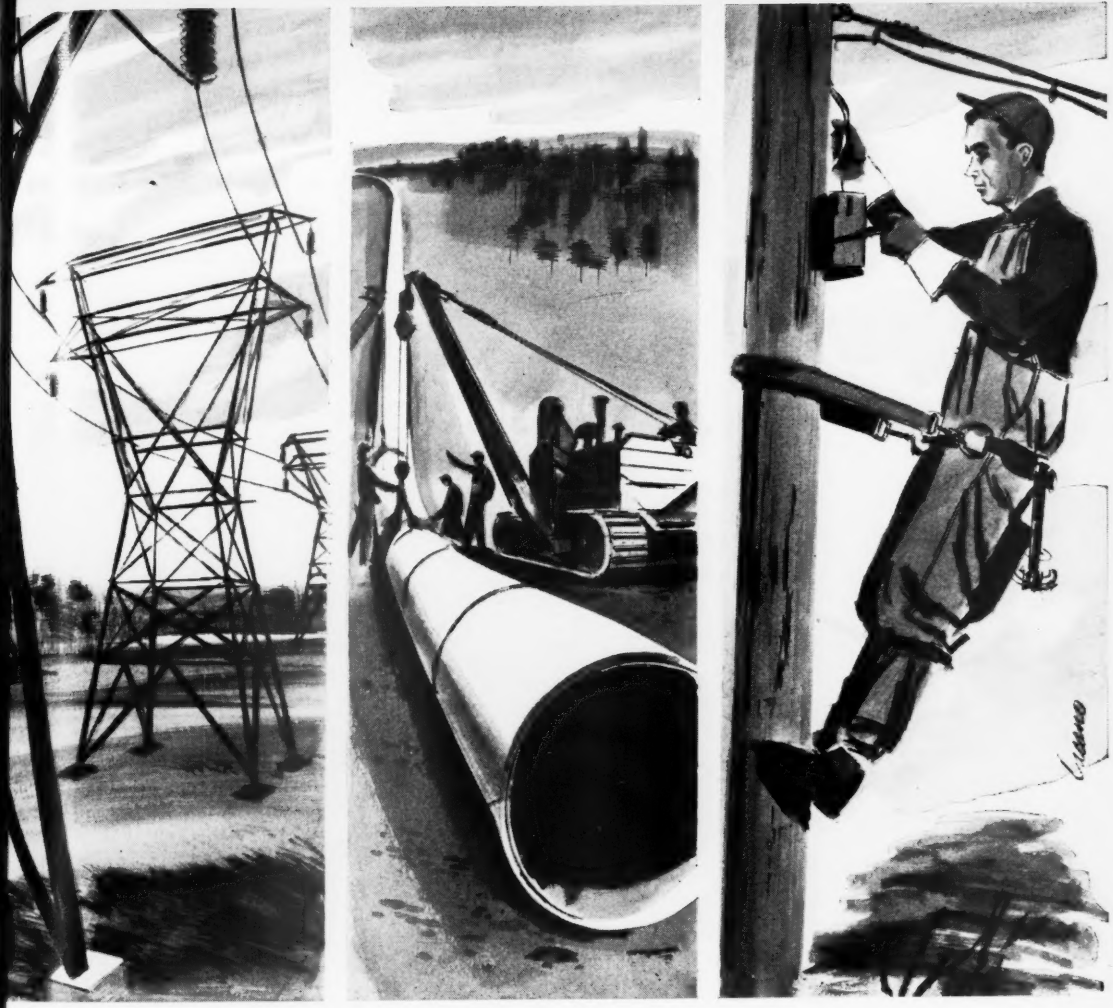

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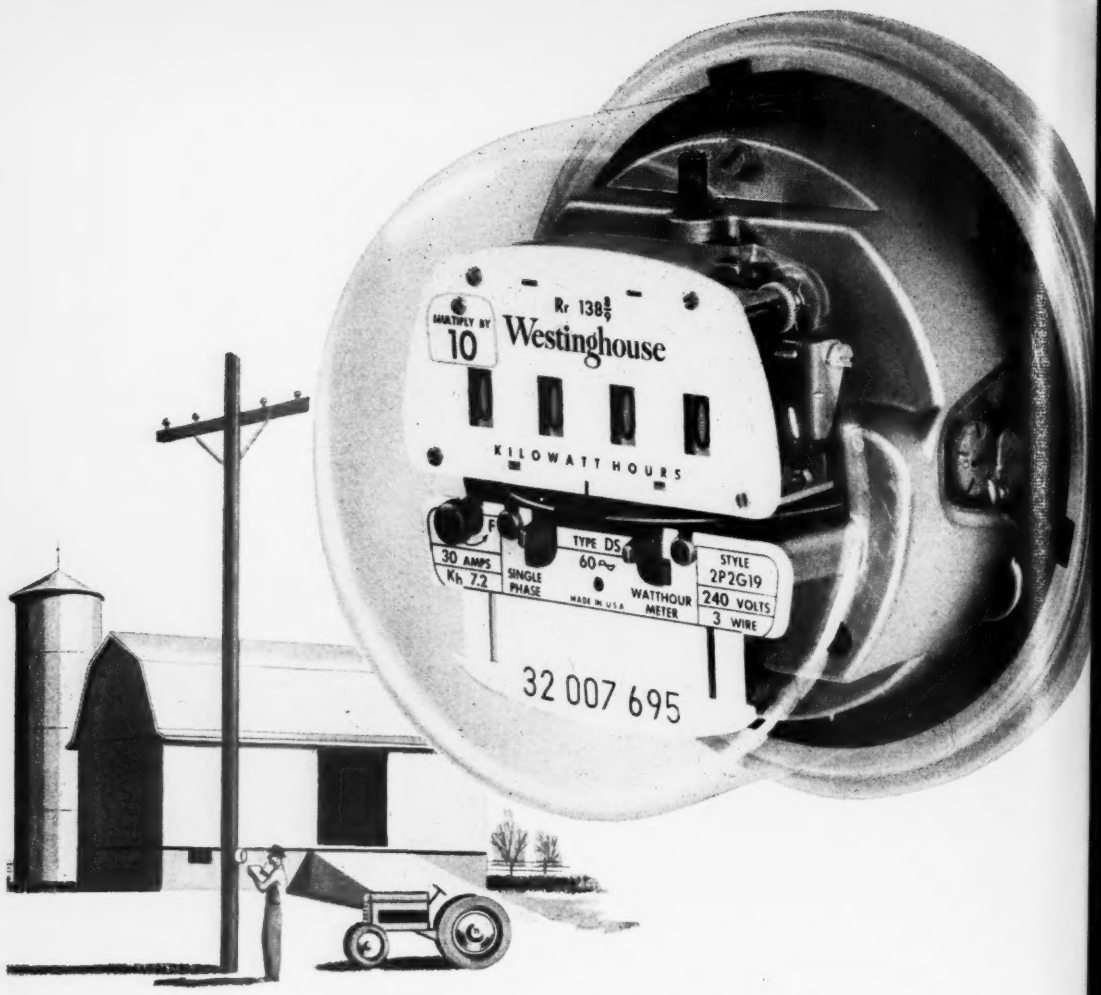

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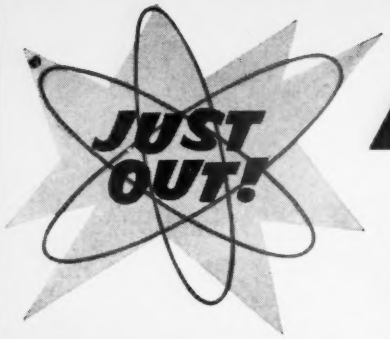

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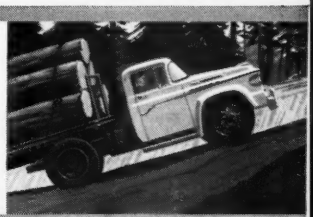

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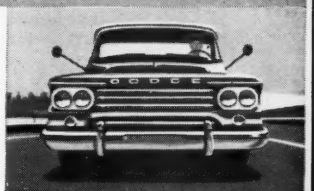

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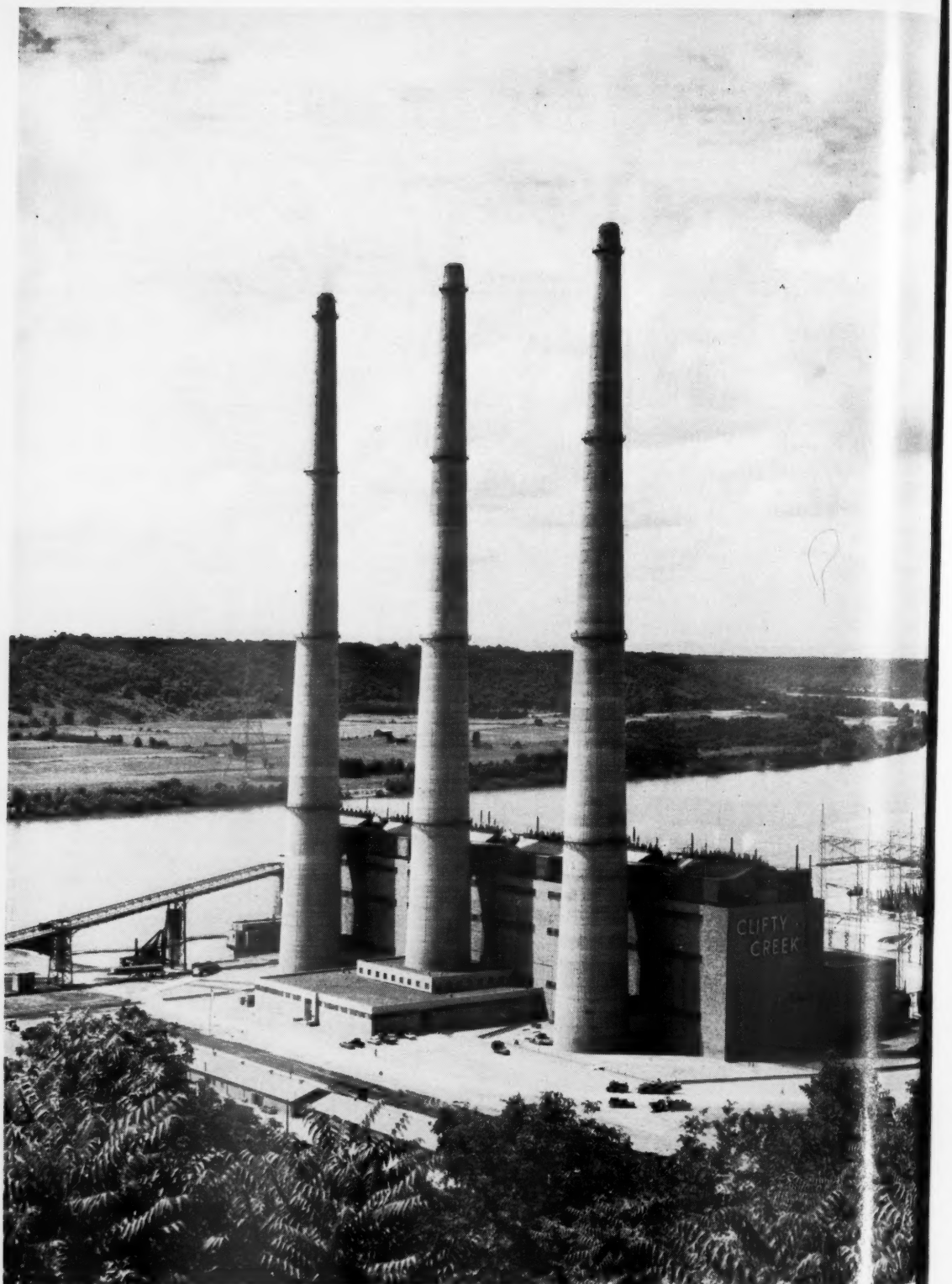
NOVEMBER

Thursday—7 *Pacific Coast Electrical Association begins Hawaiian conference, Honolulu, Hawaii.*	**Friday—8** *National Metal Exposition ends, Chicago, Ill.*	**Saturday—9** *American Society of Mechanical Engineers will hold annual meeting, New York, N. Y. Dec. 1-6.* ***Advance notice.***	**Sunday—10** *American Water Works Association, Florida Section, begins annual meeting, Jacksonville, Fla.*
Monday—11 *American Petroleum Institute begins meeting, Chicago, Ill.*	**Tuesday—12** *Alabama-Mississippi Telephone Association ends 2-day annual meeting, Birmingham, Ala.*	**Wednesday—13** *American Standards Association begins conference and annual meeting, San Francisco, Cal.*	**Thursday—14** *Federal Bar Association, Committee on Natural Resources, begins briefing conference on water resources, San Francisco, Cal.*
Friday—15 *National Electrical Manufacturers Association ends 5-day meeting, Atlantic City, N. J.*	**Saturday—16** *American Society of Refrigerating Engineers ends 3-day semiannual meeting, Chicago, Ill.*	**Sunday—17** *Refrigeration and Air Conditioning Contractors Association begins annual meeting, Chicago, Ill.*	**Monday—18** *National Warm Air Heating and Air Conditioning Association begins meeting, Chicago, Ill.*
Tuesday—19 *Air Pollution Control Association ends 2-day semiannual technical conference, San Francisco, Cal.*	**Wednesday—20** *American Transit Association, Mechanical Division Administrative Committee, begins meeting, New York, N. Y.*	**Thursday—21** *National Industrial Conference Board begins general meeting, Milwaukee, Wis.*	**Friday—22** *Oklahoma Telephone Association ends 2-day annual convention, Oklahoma City, Okla.*



Courtesy, Ohio Valley Electric Corporation

Giant Steam Plant on the Ohio

The Clifty Creek plant of Indiana-Kentucky Electric Corporation.

Public Utilities
FORTNIGHTLY

VOL. 60, NO. 10 NOVEMBER 7, 1957

A Region Looks to Its Power Supply

Public utility companies in some areas are finding it necessary and desirable to co-operate with REA co-operatives and government-owned and -operated utilities in order to work towards a common goal. That goal is to improve the operating efficiency of each power supplier through joint planning so that all customers will be assured of inexpensive and dependable service.

BY ALLEN S. KING*
PRESIDENT, NORTHERN STATES POWER COMPANY

IN response to an invitation from Northern States Power Company, power suppliers from six midwest states met in Sioux Falls, South Dakota, early this year to discuss ways and means of coordinating construction planning to eliminate any possible needless duplication of facilities. More than 150 officials from 21 rural electric co-operatives and 12 utility companies, as well as representatives from four federal agencies and the power districts of Nebraska, attended this first Eastern Missouri Basin Power Conference.

All those attending the conference were agreed that joint planning of new generation and transmission facilities and close co-operation among power suppliers could increase the efficiency of operations for every member of the group if properly worked out. So this group of power sup-

*For additional personal note, see "Pages with the Editors."

pliers intends to explore the feasibility of co-ordinating construction and operation of facilities.

In some respects this undertaking is unique. It is the first time that all types of power suppliers in an area, federal, state, REA, municipal, and utility company, have united to work toward a common goal. That goal is to improve the operating efficiency of each power supplier through joint planning to the end that electric service to all customers will be as cheap and dependable as possible.

SOME idea of the magnitude of the job at hand can be gained from a study of the area involved. The six states involved are larger than the combined area of the New England states and all of the states along the Atlantic seaboard, including Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, the District of Columbia, Virginia, North Carolina, South Carolina, Georgia, and Florida.

The problems confronting the power conference are no less large than the area served by its members and, because the distances are so great, there is even more reason to eliminate expensive duplication. Two committees were created at the initial session. One was an engineering committee charged with the responsibility of studying the problems involved and making recommendations for action. The second was a policy committee which, as its name indicates, is charged with determining matters of policy. It is composed of representatives of top management from every member of the conference.

Meeting at 60-day intervals, the engineering committee began a study of co-ordinated operation in other parts of the country. It also reviewed the findings of various studies of the Missouri basin made by federal agencies and by utilities.

Each of the meetings thus far has been largely devoted to discussing informative papers prepared by committee members and others. Papers dealing with other established co-ordinated groups have, without exception, pointed to substantial benefits to be gained from such joint operation. No study has questioned the feasibility of joint operation in the Missouri basin, the consensus being that it is both workable and advantageous.

AT its fourth meeting, held August 1st and 2nd, the engineering committee continued its study of load and capacity information and future power supply problems in the area. Previously, two independent studies of the area's capacity and future load growth, made at the request of the 12 utility companies in the group, were presented to the engineering committee. The general findings and conclusions of a six-member utility group considering a large jointly owned steam plant were also discussed. In addition, the Corps of Engineers and the Bureau of Reclamation have both presented papers bearing on their plans and operations.

There are now nearly 7 million kilowatts of generating capacity among the power suppliers included in the proposed area. Every study indicates that the historic pattern of growth throughout this area will continue and that ten years from now these power suppliers will need a capacity of not less than 14 million kilowatts. At the same time it is obvious that more and larger transmission lines will

A Common Goal

"In response to an invitation from Northern States Power Company, power suppliers from six midwest states met in Sioux Falls, South Dakota, early this year to discuss ways and means of co-ordinating construction planning to eliminate any possible needless duplication of facilities. More than 150 officials from 21 rural electric co-operatives and 12 utility companies, as well as representatives from four federal agencies and the power districts of Nebraska, attended this first Eastern Missouri Basin Power Conference. . . . In some respects this undertaking is unique. It is the first time that all types of power suppliers in an area, federal, state, REA, municipal, and utility company, have united to work toward a common goal."

also be required as power use continues to climb.

Some of the prerequisites of co-ordinated operation already exist among the members of the Eastern Missouri Basin Power Conference. Each of the power suppliers now has an interconnection with adjacent suppliers; thus all are now physically tied together with lines varying from 69,000 volts to 230,000 volts.

Power suppliers in the area are interconnected now not only internally but also externally to the Interconnected Systems Group. This is the giant national grid which has some 40 million kilowatts of generating capacity. This grid includes most of the states east of the Mississippi. Additional lines now under construction or planned for the near future will strengthen both the internal and external connections.

Most of the members of the midwest power group are already realizing

benefits of a tangible nature from interconnection. It is confidently expected that substantial further benefits will be realized by joint planning and joint use of facilities.

THE eastern Missouri basin will probably never operate as a single integrated unit. The size of the area served almost precludes such an eventuality. It is more likely to develop into several smaller groups within the larger organization. These smaller groups might consist of groups of suppliers, usually but not necessarily neighbors, operating jointly under specific contracts with each other.

I visualize that in the final analysis we may end up with a rather loosely knit organization held together by informal committees, such as the engineering and the policy committees, with a common desire to eliminate duplication and operate the area in the most economical way electrically.

These committees would have no power to impose any course of action upon the membership, but would function chiefly as a source of information, a forum for discussion, a co-ordinating agency, and a vehicle for such studies as may be found necessary to make.

It is hoped that the most direct benefits to be realized from operation will come through specific contractual arrangements among members of the group. The contracting parties may receive advice and guidance from the engineering committee, but the contracts themselves and the studies leading up to them will remain the responsibility of the contracting firms. It is intended that studies among members, or groups of members, of specific projects advantageous to them will continue regardless of the existence of the central engineering committee.

IT is almost inevitable that these smaller groups will develop within the large group encompassing the whole region. These smaller ones might include two or three power suppliers, or as many as a half-dozen or more. Such a group, for instance, might find it mutually advantageous to work together on construction of a transmission line.

For example, let us say that Supplier A plans to build a transmission line. Its own load and growth studies show that a 69,000-volt line is sufficiently large for its purposes; that there is no need as far as this individual supplier is concerned to build a line of larger voltage at this time.

At the same time, adjacent Supplier B finds itself in the need of additional capacity while Supplier C, also adjacent to A, has a considerable reserve. Under these circumstances, it would be mutually advantageous for all three to work together. Supplier A would build a larger transmission line, the excess capacity of which would be used to transmit energy from C to B. Supplier B, of course, would pay a wheeling charge to Supplier A.

Even greater economies can be realized through combined construction and use of generating facilities. Let us say, for example, that studies reveal that within the area served by several power suppliers additional capacity is found to be needed at the rate of 100,000 kilowatts per year. Obviously, it would be a great saving to all to build a single 100,000-kilowatt unit rather than have several companies construct smaller, more expensive units. Also, additional economies can be made operating a large plant instead of several small

ones. Load growth studies carried on jointly by the several companies would determine where and when these plants should be built.

Thus, a plant on Supplier A's lines in North Dakota, for instance, might be built for service in 1960, one on Supplier B's lines in South Dakota built for 1961, and a plant on Supplier C's lines in Minnesota built for 1962.

CO-ORDINATED operation is relatively simple—once the groundwork has been laid for it and a working organization set up. These are matters which take considerable time, however, and there is little to be gained by trying to force developments. I believe the engineering committee is making satisfactory progress in its studies and an operating pool could become a reality in due course of time.

Mindful of the fact that the first duty of any power supplier is to provide its customers with the best possible service at the lowest possible price, members of this organization are striving to build workable arrangements that will help cut the costs of production and thus keep electric rates at their present low levels. The unique combination of government-financed utilities and power companies found in this organization is not proving a deterrent to progress.

The engineering committee is trying to study the whole picture as though everything were under one ownership and then decide what is best economically for the entire area.

The 12 power companies participating in the Eastern Missouri Basin Power Conference include Black Hills Power & Light Company, Rapid City, South Dakota; Central Electric & Gas Company, Lincoln, Nebraska; Interstate Power Company, Dubuque, Iowa; Iowa Electric Light & Power Company, Cedar Rapids, Iowa; Iowa Public Service Company, Sioux City, Iowa; Iowa Power & Light Company, Des Moines, Iowa; Kansas City Power & Light Company, Kansas City, Missouri; Minnesota Power & Light Company, Duluth, Minnesota; Northern States Power Company, Minneapolis, Minnesota; Northwestern Public Service Company, Huron, South Dakota; Otter Tail Power Company, Fergus Falls, Minnesota; and Union Electric Company, St. Louis, Missouri.

THE 13 rural electric G&T co-operatives in the organization include: Minnkota Power Co-operative, Central Power Electric Co-operative, Co-operative Power Association, Dakotas Electric Co-operative, East River Electric Power Co-operative, Rushmore G&T Electric Co-operative, Rural Co-operative Power Association, Central Iowa Power Co-operative, Corn Belt Power Co-operative, Northwest Iowa Power Co-operative, L and O Power Co-operative, East Montana Group, Northwest Power Co-operative.

In addition, Consumers Public Power District, Nebraska Public Power System, Omaha Public Power District, the national Rural Electrification Administration, the federal Bureau of Reclamation, the U. S. Army Corps of Engineers, the Federal Power Commission, the Minnesota Municipal Utilities Association, and the South Dakota Municipal Electric Association are all represented.

Engineers as Regulatory Commissioners

Part I.

Is it of advantage to have an engineer on the commission itself, or does the engineer function more effectively as a specialized staff official?

By LINCOLN SMITH*

THE services of engineers are essential in the work of state and national regulatory commissions.[1] The real issue is whether the assistance of engineers and other experts can be used most effectively on staff positions, or whether specialists also are entitled to representation at the administrative policy-making level. There is no inconsistency between the two alternatives, because professional and scientific men hold both important top and staff posts throughout the regulatory process.

The central theme of this article is that professional expertise belongs at the staff level, while men of broader training and experience—men with administrative ability who will give political direction to the agency—are needed for commissionerships.[2] Hence, engineers and other specialists who hold commissionerships do so, not by virtue of their field of competence but because of incremental contributions which transcend their vocations. They are chosen for top places because of their wide perspectives, aptitude for administration, and qualities of leadership. Although this view is subject to the professional biases of the writer, an attempt is made to attain objectivity. Through electic sources, evidence is presented for the opposite postulate as well.

When public regulation was in its infancy, lawyers were popular choices for commissionerships.[3] Out of sheer necessity, however, many commissions assigned

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engineers to prominent staff positions in the embryonic and formulative stages of the regulatory movement. Many investigations and inspections called for engineers. Friendly assistance was required from technical men who could counteract some of the scientific allegations and refractory data presented to regulatory agencies by company engineers.[4] On many national and on some of the more advanced state commissions, able commissioners were helpless to start, or make, numerous investigations without sympathetic support from their own engineers. A little later accountancy made some inroads into the prerogatives of engineers.

THE elevation of engineers to the national administrative policy-making level is a relatively new trend. Back in 1915 Morris L. Cooke, who thought that "the work that comes before the commissions was largely engineering," deplored the absence of engineers as commissioners.[5] The idea of engineer commissioners originated in the states, apparently as a reaction against "lawyer domination" of some commissions, plus a growing need for technical ability on the panels. The vacillating practice of putting an engineer on top became more popular in the 1920's. One authority believes that the number of engineer commissioners increased between 1925 and 1929—largely as a result of the growth of valuation as a vital part of utility regulation.[6] In the last twenty-five years, however, a slight trend points away from engineers as state commissioners.[7] But their importance is growing on the staff level in numerous jurisdictions. Engineer regulators now are making greater headway at the national level.

In the interval of twenty-five years between 1929 and 1954, despite an increase in the total number of state commissionerships, engineer members declined from thirteen to nine.[8] Of the nine engineers in 1954, three could be classified also under the heading "general business." Two more were, in addition, attorneys. Hence, more than half of the nine engineer commissioners had a much broader training and background than a professional engineer would ordinarily have. Either the major or ancillary profession of these men was in the stream of political availability, which ordinarily is remote from the path of men of science.[9]

IN 1929 these states had an engineer as commissioner: Connecticut, Maryland, Massachusetts, Michigan, Missouri, Nevada, New Hampshire, Rhode Island, Utah, Vermont, and Washington. The idea was then most popular in the New England states, where five adhered to it. A quarter of a century later, one man with engineering background was on the commissions of Colorado, Louisiana, Michigan, New Jersey, and Texas. Nevada and Hawaii had two. Michigan and Nevada were the only states to show consistency in having an engineer on the commission in 1929 and in 1954; in the latter, one is a statutory requirement. The five New England states had eliminated engineers from top posts in the interval—Maine even before that. There was, however, a noticeable trend indicating that engineers were more popular on the commissions in the oil, gas, and mining states. In many states the engineering staffs of the commissions were enlarged in recent years, even though some did not choose an engineer for a commissionership.[10] Hence, the locus of

interest has moved from the East to the West and Southwest. One commissioner was a petroleum engineer, one a mining engineer, and another held a degree in electrical engineering.

Mere numbers do not indicate the significance of engineering and related fields on the commissions in the Mountain states. One Colorado commissioner is an attorney who is also a mining engineer with a degree as a metallurgist. This agency also employs eminent staff engineers. A Utah commissioner was educated in law but never practiced; his main occupation was in mining. One Wyoming commissioner had experience in operating an oil refinery, and another was director of an irrigation district.

Although the Nevada commission is one of the smallest in the United States, two commissioners are engineers. In 1952 an arrangement was made to hire a part-time staff engineer as needed.

It is not wholly fortuitous that states which elect their commissioners seldom put engineers on their regulatory agencies. In fact, it is quite difficult to conceive of a rigorous engineer showing sufficient political craftsmanship to win election to the post.

In 1929, all thirteen engineer commissioners were appointed. In 1954 the electorates of Texas and Louisiana had returned engineers to commissionerships. The particular Louisiana commissioner was also a lawyer. And in Texas, the incumbent received his initial place on the panel by means of an emergency appointment. This helped, after a year and a half on the commission, his subsequent election in his own right. Commissioner-staff relationships for engineers thus are activated intensively in the southwestern region, because the commissioners are elected popularly in Arizona, Louisiana, Nebraska, Oklahoma, Texas, and on one of New Mexico's two regulatory tribunals.

The number of engineers serving as national commissioners is increasing—a positive reciprocal of the state practice. In 1936, the primary occupation of only two federal commissioners was that of engineer, and only one of these was employed as engineer at the time of his appointment.[11] One was on the Interstate Commerce Commission; the other on the Federal Power Commission. A study of selected federal commissioners in 1954 revealed that four were engineers.[12] Another was in a cognate field, that of professional physicist.

A descriptive statement of historical trends and current practices of the

¶ "The *services of engineers are essential in the work of state and national regulatory commissions. The real issue is whether the assistance of engineers and other experts can be used most effectively on staff positions, or whether specialists also are entitled to representation at the administrative policy-making level. There is no inconsistency between the two alternatives, because professional and scientific men hold both important top and staff posts throughout the regulatory process.*"

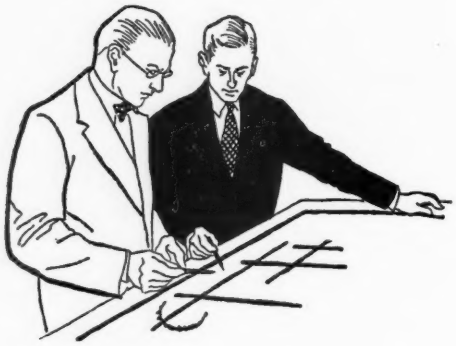
use of engineers in the regulatory process is revealing, but analysis and evaluation are required before a study can assume much significance. These developments deserve more than passing notice, but they have received little attention over the years.

The logic for supporting engineers as commissioners is based on the axiomatic reality that engineering is an integral part of regulatory technique.[13] From this premise, the conclusion is drawn that engineers deserve representation at the highest echelon of regulation. On the other hand, a reasonable man might decide that a different conclusion is sound—that commissioners should be primarily men whose range of knowledge is much wider than that of engineering, law, or any other single field of specialization. There is an element of validity in each opinion.

THE plea that engineers deserve commissionerships is, at the outset, persuasive. Engineers claim representation on commissions on at least two bases: (1) they have competence in an important regulatory field; (2) in some cases they qualify categorically as specialists in particular subjects, such as radio, television, railroads, or mineralogy.[14] Virtually all industries affected with a public interest are on the home base of engineers. Water power, electricity, railroads, telephone, gas and oil, and other utility enterprises depend largely upon the services of men with technical training for their procurement, availability, or delivery to the public. Because of their practical proficiency in helping to supply utility services, engineers hold important, often strategic, positions in the hierarchy of utility corporations. Likewise, engineers and men who talk their language are essential to many phases of the corporation counterpart—public regulation. Engineers are indispensable in our complex society; especially in the economic segments thereof which are the province of regulation.

SINCE engineers and other scientists have given society many of the instrumentalities which must be regulated, these creators should be given opportunities to help control their scientific contributions to mankind; at least they should have some determinative authority over complicated technical areas. Some of these points were recognized, for example, when the Maine Public Utilities Commission first was created in 1913. The Executive Council which is charged with the discretionary duty of ratification of the governor's nominations insisted upon a policy of selecting two lawyers and one engineer for members. Shortly thereafter, the policy was altered.[15] The governor and council made an unwritten law which has been followed since without deviation—that the engineering phases of regulation would be provided more effectively by adding a competent engineer to the regulatory staff.

The rationale for putting one or more engineers on a commission is strengthened by the tendency for legislative bodies to delegate powers more generously where technical questions are involved than to a commission dealing with relatively nonscientific matters. At the outset, at least, many of these commissioners "were supposed to operate on the basis of scientific or professional judgment with as little mixture of politics as possible."[16] Inasmuch as subjective evaluation often is required, the discretion may be broad. If



Engineers in Industry

"TODAY the engineering profession is prone to be sympathetic to industry. Perhaps nine out of ten clients of engineers are company clients. Aside from the few who go into teaching, the great majority of engineers are employed in industry. True, recent graduates of leading engineering schools seem to prefer industrial employment as distinguished from openings with utility companies. But that may reflect recent economic competition for their services. The great many show a preference for electronics; relatively few are interested in utility management."

the lawmakers feel incompetent to deal wisely with engineering problems, so the argument proceeds, then the expert engineer should be a top consultant with a commensurate share in the determinative powers of the agency. Legislators admit a vacuum in the engineering aspects of the work of certain commissions; hence logic calls an engineer to contribute to the decisions which fill that hiatus. We shall cover the other side of this argument later.

IT is freely admitted that the work of any commissioner requires much more than proficiency in engineering. An engineer who helped to construct atomic and hydrogen bombs, for example, would not qualify, *per se*, for membership on the Atomic Energy Commission.[17] When George E. Sterling was commissioner on the Federal Communications Commission, he was one of the few top-level men who could take a radio apart and put it together again. Yet this technical ability alone did not make him a successful commissioner. He was an engineer who possessed many administrative qualities as well.

By insisting upon a balance of several divergent talents on a commission, however, one or more engineers may be entitled to top spots. The engineer, too, is better equipped than many other men to furnish this over-all ability as a commissioner. His mind is anchored securely in

a particular branch of the substance of regulation; yet, unlike the lawyer, he is not steeped in precedent. A commissioner who is well-grounded in a specialized phase of the work, through training and experience, is better equipped at the outset to enlarge his horizon into cognate fields than a highly intelligent "generalist" (the professional administrator) who may be asked to come in "cold" and help to resolve complicated decisions with which he has no technical familiarity or comprehension. A prominent engineer insisted more than forty years ago that "engineering is the best qualified profession to bring back this country to a sane regulation of its affairs."[18]

THE cases of a few federal commissioners present many similarities to those in several states which are confronted with special engineering activities arising from severance, control, and conservation of natural resources in the public interest. In these areas the specific nature of the imminent regulatory tasks elevated engineers to a predominating position. State and national controls of oil and gas and of pipelines were largely engineering matters which required close correlation between several state agencies and the Federal Power Commission. More recently, to the extent that the determination of "fair field value" is the all-important differential,[19] economists may have gained an ascendancy over engineers at the focal points. On the national scene communications and atomic energy present additional unique problems. Then, too, as the national government has penetrated its interests further into scientific fields opened up by technological progress, an increasing sphere of regulation now involves complex technical aspects which put a greater premium on the services of engineers than in a great majority of the states. In fact, regulation of communications was "forced on us for engineering reasons."[20] Professor Jaffe has suggested the original occasion for this regulation was "engineering chaos."[21]

The strongest "case" can be made for engineer commissioners in communications, but this postulate requires qualifications. Although a constant cycle of technical problems faces the Federal Communications Commission—now the apex of mechanical problems of communications regulation has been reached—an ever-increasing number of nontechnical policy questions confronts both Congress and the FCC. While this agency is still concerned with an important segment of technical phases of regulation, the arena of political and administrative expediency is ascendant. Henceforth, an array of engineers as commissioners may be obsolete in view of the impending configuration.

TECHNICAL situations led to the establishment of the Federal Radio Commission in 1927, and required the exercise of some control of entry and competition in an expanding industry. Talented engineers served on this agency; but when the Federal Communications Commission was created in 1934, lawyers and journalists replaced scientific men as directors.[22] In its initial stages, television, too, emphasized technological problems; allocation of space channels and time was essential. Engineers again ascended to commissionerships, but since 1954 the FCC has had only one engineer commissioner.[23] These problems were not legal,

but ones of practical realities which were constrained by the technics of engineering. Even today the judgment of competent engineers is essential for an important sector of communications control. However, the Supreme Court emphatically has stated that the organic acts under which the commission operates "are not limited to the engineering and technical aspects of regulation of radio communication."[24]

THE Federal Communications Commission, for more than two decades, has had one or more engineer commissioners. At times this agency has given engineering problems a number one priority. This preoccupation with a single element of its work has evoked considerable criticism. In the words of Professor Jaffe:

> It decided to license within the limits set by "good engineering." Indeed in its zeal to provide as many new facilities as possible it has been charged with disregarding its own engineering standards.[25]

Mr. Justice Frankfurter has scored this agency for its overconcern for technological change. In a dissenting opinion on an engineering phase, he opined that the commission's "prophecy of technological feasibility is hardly in the domain of expertness . . . "[26] Furthermore: "One need not have the insight of a great scientific investigator, nor the rashness of the untutored, to be confident that the prognostications now made in regard to the feasibility of a 'compatible' color television system will be falsified in the very near future."[27] The majority of the Justices, however, deferred to the expert opinion of the agency.

THE Federal Communications Commission differs from other independent agencies in that its economic sphere is more curtailed. It does not, for example, regulate radio or television rates; its promotional work is nil; and economic competition is not of great consequence in its legislative directive to issue licenses for the fair, efficient, and equitable distribution of stations. The troublesome matter of station licenses is nontechnical, which requires sound and judicious policy decisions. The basic statute under which the FCC operates, according to Professor Jaffe, "contains neither mandate nor guide for program control. The administrative

¶ "MANY *engineers in private employment are confronted with a cross dilemma of sticking strictly to their own profession or of being drawn into engineering advocacy for their employers. The engineer is greatly under the influence of company policies in his work. Often his task as an engineer is loyally to back up management, which is his employer. He may be called upon to support and justify management statements. He has an indispensable rôle in testifying for his company at commission hearings. He is thus drawn into litigation as an expert and partisan, who is both professionally and emotionally involved in the outcome.*"

standards would be either arbitrary or a pallid pastiche."[28] Hence, in this area the door is wide open for important policy choices. These may be political or administrative, but in no sense are they any longer technical or matters of engineering.

The arguments against engineers as commissioners have varied over the years. Cooke claimed in 1915 that engineers seldom were selected, because of their close affiliations with the corporate side.[29] In fact, he stated that it was not easy in those days (1913-15) to get electrical engineers who would burn their bread-winning bridges behind them by testifying on the public side. He further observed:

> At a time when a great majority of the appointees to these commissions are lawyers there is some underlying reason why engineers are almost never appointed to them. It does not seem to me that the public loves a lawyer any better than an engineer—perhaps not quite as much. But there is a feeling that even a lawyer can see two sides to a question and may be successful in maintaining either of them. . . .[30]

This argument still has validity in numerous circles. But there are additional reasons which militate against the professional experience of engineers in regulation—aspects which suggest liabilities rather than assets for commissionerships. They stem from the nature of engineering education and from vocational indoctrination in employment.

TODAY the engineering profession is prone to be sympathetic to industry.[31] Perhaps nine out of ten clients of engineers are company clients. Aside from the few who go into teaching, the great majority of engineers are employed in industry. True, recent graduates of leading engineering schools seem to prefer industrial employment as distinguished from openings with utility companies. But that may reflect recent economic competition for their services. The great many show a preference for electronics; relatively few are interested in utility management.

THE strictly scientific man is likely to remain so during his employment, and seek a purely professional career in his area of engineering specialization. Some few win their way to responsible positions in management; and these men are presumably better material—in the stream of political availability for commissionerships. These men have more individual and group contacts than their colleagues who prefer to stay anonymously below the management level; they become experienced through participating in organic decisions of industrial management and administration. As they rise in the managerial ranks, however, they are vulnerable to desert many of their engineering interests, or at least to lose contacts with the dynamics of new engineering trends. Hence, after a time, they will depend upon the technical engineers below them to supply them with many basic realities of the profession. Some administrators cease to be topnotch engineers. Over the years they have become frozen in a professional attitude which was valid only when they had active contact with pragmatic engineering. Their static engineering approach, even much of their insight into fundamentals, lags behind professional changes. In short, what often happens to engineers in management is that they are

products of human obsolescence. The long process by which they are elevated for serious consideration for a commissionership may have immunized them as progressive engineers.

MANY engineers in private employment are confronted with a cross dilemma of sticking strictly to their own profession or of being drawn into engineering advocacy for their employers. The engineer is greatly under the influence of company policies in his work. Often his task as an engineer is loyally to back up management, which is his employer. He may be called upon to support and justify management statements. He has an indispensable rôle in testifying for his company at commission hearings. He is thus drawn into litigation as an expert and partisan, who is both professionally and emotionally involved in the outcome. He becomes an ardent proponent of management. Such an engineer on a commission might not be sympathetic to the public side of a case.

Even though some engineers are repelled at this infringement upon their professional independence of thought, they must earn a living and live in their environment. They have the alternative of withdrawing from the realm of policy decisions into a shell of pure scientific research and handle technical details only. Here their professional work is separated from their political and social beliefs. But voluntary exile from organic participation may indicate a degree of vocational contradiction. It is ever the enterprising professional man, who will not shun any part of his duties, who wins promotions in private or public service.

Footnotes

[1] This paper is concerned with some 60 agencies which regulate segments of the economy. In the states they generally are known as railroad, public utilities, or public service commissions. On the national level, examples are the Federal Trade Commission, Securities and Exchange Commission, Atomic Energy Commission, and others mentioned herein.

[2] "The present trend appears to be to build up able staffs of experts . . . and it is, therefore, not so important that the commissioners have definite, detailed training in specific fields. When the commissioners themselves had to do the work now performed by the engineers, lawyers, rate experts, accountants, and others, there was need for commissioners to know more about these fields. The commissioners should be men with sufficient intelligence to comprehend the problems of regulation and enough initiative and originality to solve them." Herman H. Trachsel, *Public Utilities Regulation* (Chicago, 1947), p. 118.

[3] Lincoln Smith, "Lawyers as Regulatory Commissioners," *The George Washington Law Review*, March, 1955, pp. 375-428. For a specific example, when the Nevada Railroad Commission was created in 1907, the statute required that one member be an attorney. A second had to be "a practical railroad man familiar with the operation of railroads generally." This could have been an engineer. In 1911 this agency became the public service commission. In 1919 the state engineer became *ex officio* a commissioner; the lawyer requirement was discarded. Nevada, *Revised Laws*, Vol. 1, § 4549; *Laws of Nevada*, 1919, Chap. 109.

[4] Many cases, some quite recent, have been engineering battles, the outcome of which has hinged on judicial interpretation of expert technical opinion.

[5] Kenneth E. Trombley, *The Life and Times of a Happy Liberal. A Biography of Morris Llewellyn Cooke* (New York, 1954), p. 54.

[6] Francis X. Welch, "The Trend from Lawyers to Laymen as Commissioners," PUBLIC UTILITIES FORTNIGHTLY, December 26, 1929, pp. 801-807. Vol. IV, No. 13.

[7] Lincoln Smith, "Trend from Lawyers to Laymen on State Commissions" in *Ibid.*, November 11, 1954, pp. 630-639. Vol. 5, No. 10.

[8] *Ibid.*, pp. 632, 634.

[9] Here is a different opinion: "Today engineers are in politics. President Truman appointed two to the all-important Atomic Energy Commission to mention only one major agency." Trombley, *op. cit.*, p. 68. The need of political activity in order to secure a commissionership is analyzed in Lincoln Smith, "Recent Trends in the Appointment of Commissioners," *Ohio State Law Journal*, autumn, 1952, pp. 479-502.

[10] Statistical data on staff positions for federal commissions and those of nearly all the states are presented in Report of the Special Secretarial Offices Committee, National Association of Railroad

and Utilities Commissioners. (Washington, 1952.) Technical staffs in such states as New York, Wisconsin, Texas, and California rate high. In some of the less populous states the caliber is at best mediocre. Here is a significant opinion on New Mexico: "Political selection of the commissioners themselves would be less serious if there were a permanent technical staff carrying over from one administration to the next. But in New Mexico, with its lack of civil service and its spoils system tradition, politics has controlled to a large extent also the appointment of the unit chiefs, the technical staff (in so far as our commissioners have anything that deserves to be called a technical staff), and the clerical employees." Henry Weihofen, Report to the Committee for Study and Recommendation of Reorganization of the Executive Branch, State of New Mexico on the Corporation Commission and the Public Service Commission. Mimeo. April, 1952, p. 64.

[11] E. Pendleton Herring, *Federal Commissioners* (Cambridge, 1936), p. 114.

[12] Lincoln Smith, "Professional Qualifications of Federal Regulatory Commissioners," Part I, PUBLIC UTILITIES FORTNIGHTLY, November 25, 1954, pp. 683-694; Part II in *Ibid.*, December 9, 1954, pp. 752-761. Vol. 54, No. 11 and No. 12.

[13] Taking the FPC as a typical agency, the importance of engineers can be seen from the fact that in 1952 it employed 220 engineers, in contrast with 187 clerks, 116 accountants, and thirty-eight attorneys. See, NARUC report, Note 10, *supra.*

[14] This is in opposition to the theory that the "generalist" or professional administrator makes a better commissioner.

[15] See below, pp. 17, 18.

[16] Don K. Price, *Government and Science.* Their Dynamic Relation in American Democracy. Stokes Foundation, New York University (New York, 1954), p. 21.

[17] The first three chairmen of the AEC were lawyers and executives—not nuclear physicists. *Ibid.*, p. 182.

[18] Cooke, in Trombley, *op. cit.*, p. 51.

[19] Federal Power Commission in Re Panhandle Eastern Pipe Line Co. Docket No. G-1116, Opinion No. 269, April 15, 1954, 3 PUR3d 396.

[20] Louis J. Jaffe, "The Effective Limits of the Administrative Process: A Revaluation" in *Harvard Law Review,* May, 1954, p. 1126.

[21] *Ibid.*, p. 1127.

[22] Herring, *op. cit.*, pp. 120-122.

[23] Note 12 *supra,* pp. 685, 694.

[24] National Broadcasting Co. *v.* United States (1943) 319 US 190, 215, 49 PUR NS 470. "These provisions, individually and in the aggregate, preclude the notion that the commission is empowered to deal only with technical and engineering impediments to the 'larger and more effective use of radio in the public interest.'" *Ibid.*, p. 217.

[25] Jaffe, *op. cit.*, p. 1124. The engineering profession is reported to have thought this FCC decision unsound.

[26] Dubitante in Radio Corp. of America *v.* United States (1951) 341 US 412, 426, 89 PUR NS 65.

[27] *Ibid.*, p. 427.

[28] Jaffe, *op. cit.*, p. 1127.

[29] Trombley, *op. cit.*, p. 54.

[30] *Ibid.*, pp. 42, 54.

[31] The following paragraphs are intended to be provocative rather than definitive or dogmatic. Many of the views were expressed to the writer by well-qualified associates; but they are opinions only. The points are directed to the average engineer, with the full realization that only an extraordinary engineer has much political chance for a commissionership.

PART II *of this article will appear in the next issue of the* FORTNIGHTLY.

". . . the real revolutionists of our day have been the Henry Fords, the Pierre S. du Ponts, the Alfred P. Sloans, the men who provided the leadership and the welding together of a great many necessary and vital skills into the ultimately successful effort of the mass production of automobiles; and all the other industrial leaders and their associates in science and business who, by backing and organizing the technologists, have changed our whole lives by the developments of the twentieth century. They have been the real revolutionists.

"This is the way our standard of living has advanced. This is the way our cultural, educational, and social developments have come about. Nearly every improvement contributing to these developments has been made possible by our industrial progress. We have, in this country, brought the benefits of that progress to every home. Our venturing, risk-taking economy has brought an economic advance to our people which is the envy of socialists the world over."

—HAROLD BRAYMAN,
Director, public relations department, E. I. du Pont de Nemours & Company.

Government Debt in a Free Economy

Government debt and inflation are subjects of continual interest in view of the current tight money policy which seems to be of increasing concern to operating utilities.

By CECIL L. DUNN*

INFLATION, the central problem of public utility economics since the end of World War II, has become permanent. Short-term variations in specific prices will continue to take place, and cyclical swings in which prices generally may move downward will not be unknown, but the long-run trend is steeply upward. Cheaper money, and dearer goods, have come to stay.

This is a sweeping judgment which many will dispute. In recent years economists and political figures in considerable numbers have declared that the danger of inflation has passed. Much has been made of the fact that wholesale prices of many commodities, and to a lesser degree some consumer prices, have been generally stable since 1950, and some have drifted slightly downward. These changes, however, are nothing more than ripples on the surface of a rising tide. The upward trend of other indices, notably wages and the rising cost of public utility plant, shows that an irresistible inflationary force is at work.

There are many sources of this pressure, some remote, some of more recent origin, some lie in current policies and the events of the present day; some are directly traceable to the size and management of the federal debt; and some are inherent in the nature of a free market economy.

A STRONG inflationary trend has run through the whole history of western Capitalism. An excellent summary by

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E. W. Axe & Co. [1] "Inflation and the Investor" contains a history of significant price movements for the past 700 years. The study shows not only the long-run rise in prices which has been continuous for the past 400 years (subject, of course, to cyclical and random variations) but also points up the fact that each modern war has been accompanied by two phenomena which are inevitably inflationary.

The first of these is the rise in prices during the conflict itself, the results of war-induced shortages of goods. The second is the pressure upon the value of money which results from the creation of the war debt.

Modern war, like modern business, runs on credit. The debts incurred in successive wars have risen steadily as improvements in arms have made them more costly, and have always remained to plague both victor and vanquished. The losers have had a tendency to rid themselves of their burdens by simple repudiation, a practice made easy by the fact that the loss of a war usually meant the replacement of the old government by one which was under no compulsion to honor the acts of its predecessors. The winners have had to move somewhat more subtly, but modern monetary systems, resting on credit, have afforded the necessary means.

THE war debts of the early modern period were "diluted" simply by the debasement of a metallic currency. This, from the physical standpoint, was a simple task. New coinage was issued in adulterated metal; old, full-bodied coin was either seized by the sovereign and replaced, or it disappeared from view under the inexorable working of Gresham's Law to reappear in the market as bullion in the hands of private holders. Resentment was great, and resistance was strong, but the means of repression were usually at hand, and protest was generally stifled.

In the modern state, without metallic standards, such crude devices cannot be called upon, but other methods of monetary control, centered around credit, are available. While the methods of credit control embraced by our central banking systems tend to be more effective in imposing restraints than in forcing expansion, a new force, the use of the public budget, has developed to supply that deficiency. Heavy public expenditures, involving the sale of securities to central banks and their members, with the securities in turn becoming the reserve against which increased volumes of credit are granted, have become the principal device by which the monetary supply is expanded. In view of the fact that central bank authorities and government fiscal authorities usually work in close concert (the former often being the creatures of the latter) a policy of credit expansion is easy to put into effect, and a rising public debt and a rising price level are its principal reflections.

A POLICY of credit expansion is usually welcomed by a large segment of the business community. It is, perhaps, not too much to say that it is generally welcomed by all except regulated industry and the individual on a fixed or inelastic income.

There are many reasons why the rising price level which accompanies credit expansion is attractive in a free market economy, but two of them are adequate to make the point. A rising price level is at-

[1] E. W. Axe, Houghton Economic Studies, Series C, Number 4, 1933. Revised 1951.

tractive to producers for the simple reason that much production is undertaken in anticipation of demand, and rising prices hold out the assurance that the money received for goods will cover the money cost of the resources which have been used in their production.

The second reason for the attractiveness of rising prices lies in the fact that the creation of large blocks of capital involves the creation of debt, because the savers and the entrepreneurs are not often the same people. In other words, few men can find all the capital required for their enterprises in their own savings; few large-scale businesses can find all their capital in the equity market. Almost every entrepreneur becomes to some extent a debtor, and almost every debtor is to some extent an advocate of cheap money. No matter how great his personal integrity, no matter how strong his theoretical convictions about the value of a stable dollar, cheaper money carries the promise of easier relief from his burden.

HISTORICALLY, the demand for cheap money in the United States came from the western farmers who were numerically the largest debtor class up until the time when the automobile era ushered in the universal use of instalment credit. Since the twenties the "debtor class" has been steadily growing. Over the period covered by SEC figures corporate debt has become a steadily large proportion of total corporate security issues. The wave of home building since the close of World War II has carried mortgage credit to unheard of heights and has made long-term debtors of millions of Americans whose previous experience with debt was confined largely, if not wholly, to short-term consumer obligations. Consumer credit itself has soared to the $32 billion mark with instalment obligations accounting for 75 per cent of the total.

In the face of these trends it is not surprising that both the major political parties take a rather relaxed view of "easy money" policies.

WHILE the attraction of rising prices works as an inflationary force, indifference to rising prices grows in important segments of the financial and labor markets. In the financial area that "indifference" can be illustrated by reference to the position of the life insurance companies.

Perhaps the term "indifference" is too strong; certainly it is not intended to imply that insurance companies take a callous or cynical view of the interests of their policyholders, or that their managements are not aware of the effects of inflation, but the fact remains that insurance contracts are almost without exception dollar

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contracts, and that investments which will maintain the integrity of reserve funds in terms of a number of dollars, regardless of the purchasing power of those dollars, are all that the insurance company need seek. As insurance in force increases, as a steadily larger proportion of the public's savings is channeled into insurance investments, the rôle of the insurance company as a factor in determining the attitude of investors increases. As long as the representatives of this group of investors maintain even a relative indifference to the deterioration of real values in securities, the trend toward cheap money will be uninterrupted by any significant opposition from them.

In the labor area the "wage-price spiral" has become the pattern. Industry-wide labor contracts with cost-of-living clauses and with built-in escalation provisions have produced, and continue to produce, increases in cost which are only partially offset by increased productivity. When these costs are covered by increased prices the value of money again moves downward.

But even if these monetary, political, and psychological forces were not in play, a tendency toward rising prices, not associated with inflation as such, would still remain to be reckoned with. It rises from the increasing pressure of population upon our raw material and land resources. Competition for relatively scarce supplies in an expanding market means that prices will be bid up, and the effect is the same as if the rise had been occasioned by an increase in the money supply. This tendency is aggravated by the size of our present military budgets. We now experience in peace what was common in war. Defense requirements place a heavy burden upon resources, and defense production creates civilian income without an offsetting flow of goods into civilian channels. Whatever the cause, the long-run outlook is for higher and higher price levels.

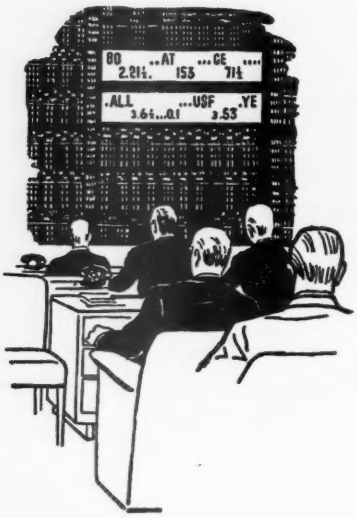
Significant though these market forces may be, this paper is concerned primarily with the inflationary effect of the federal debt and its management, because it represents a factor of great weight which is still subject to some control.

It may be argued, very simply, that the public debt—that is, the federal debt, and the monetary and fiscal devices which are related to its management—has become the largest single controllable factor in the American economy, and that it, therefore, represents a change in the character of that economy comparable in impact to the changes which have resulted from the shifting character of competition in the past one hundred years.

The existence of the debt confronts us with the choice between two courses: The first may be called "dilution"; the second, "relative reduction." One or the other of these is far more apt to determine the future course of the economy than is any amount of actual reduction, which cannot be dismissed as a possibility, but which will be, in all probability, comparatively unimportant.

Dilution means, of course, the reduction of the impact of the debt through the process of monetary inflation; in short, delivering ourselves of the burden by paying it off in cheaper money, much of which would be created for that purpose alone.

Relative reduction means the contrary process of preserving the value of the dollar, stimulating savings and investment,



Utility Debt Problems

"THE *utilities . . . face two problems directly related to the management of the federal debt: First, to what extent can the supply of savings be directed away from public use and into productive business channels, and, second, how can the rise in the price of new plant be restrained by the reduction of inflationary pressure? Although public utilities are heavy users of capital, they are not alone in facing this problem. The relative capital requirement of every industry is increasing. We must face straightforwardly the question of where we shall use the resources which are available. Not the least of these is savings."*

adding to our capital equipment, increasing the gross national product, and thereby making the debt somewhat more bearable.

The third possibility that neither device should be employed but that the debt should be maintained at its present relative size in order to maintain it as a device for controlling economic fluctuations should also receive some attention, but this, like actual debt reduction, seems to me to be a somewhat less probable course than either of the other two.

DEBT, and particularly public debt, has an ancient history in the literature of economics. The great transition in both the theoretical and practical appraisal of debt was associated with the rise of Capitalism and the emergence of the concept of capital as a means of production. This process was a part of the social revolution which brought about the emergence of modern society from the Middle Ages. Its influence was felt in every phase of human experience, and contributions were made to it from every realm of human activity. Moral standards, religious beliefs, political organizations, and social structures underwent sweeping changes in the course of that revolution. Much of this has become extensively documented in Tawney's work on *Religion and the Rise of Capitalism,* and the historic theoretical assessment of the change was, of course, Adam Smith's monumental *Wealth of Nations.*

From a period in which debt was regarded simply as the product of personal misfortunes or improvidence, a

thing to be avoided at any cost, debt came to be regarded as the logical result of the accumulation of excess capital, the converse of investment. Debt incurred to provide the means of production was distinguished from debt incurred to permit personal consumption. The old moral judgment of the latter continued to persist and still endures with considerable strength even in these days of no down payment and thirty-six months to thirty years to pay. In general, however, the debt of the sovereign, that is the public debt, was invariably regarded as the debt incurred for a consumptive purpose, usually a war or some of the other trappings of power, and it has only been in relatively recent years that the beginnings of a defense on theoretical grounds have been made for it.

MODERN opinion of the public debt runs all the way from the argument that it is an unmitigated evil to the position that it is an indispensable element in modern economic organization.

The argument that the public debt should be avoided completely does not merit much serious attention. Whatever might be said against it must begin with the statement that it is completely unrealistic. A public debt of some kind has been with us to a greater or less degree from the beginning of the modern period. The exigencies of statecraft at the national level make a perfect co-ordination of income and outgo, a no more practical possibility than it is with the individual or the modern corporation. No informed person would argue seriously that short-term indebtedness necessitated by the imbalance of income and expenses should be completely eliminated. Serious argument on this point is, therefore, that which is directed toward what we may call the *permanent public debt;* that is, a debt which either by accident or design will never be completely discharged.

There have been occasions in which fiscal policy has been directed toward the elimination of the permanent debt. The reduction of the Civil War debt of the Union is one example. The relatively rapid reduction of the federal public debt from its post-World War I high during the twenties is another. But, in general, steps of this character have been successfully taken only during periods when rapid economic expansion was possible, and at times when the size of the debt and the type and level of taxation which were employed in order to bring about debt reduction were radically different than they are now.

WITHOUT going into the questions which would be raised by an undertaking to eliminate the present federal debt, it must be said that any proposal to do so would be met head-on by the arguments of those who contend that the debt in itself is an asset. The argument in favor of a permanent debt usually involves these points:

1. It fixes a standard of risk.

2. It establishes a series of bases for interest rates.

3. It affords an avenue for investment with minimum risk and maximum liquidity, and thus creates not only a safe haven for long-term investment but a "warehouse" for short-term funds as well.

4. It is an essential part of a fiscal program aimed at stabilizing the economy. This argument assumes that a public budget which represents a relatively large seg-

ment of the total flow of funds, and a public debt which is equally significant in relationship to the total amount of credit outstanding, are necessary adjuncts of such a policy. In effect, the public budget and the management of debt take on a function analogous to the open market operations of the monetary authority but on a far more extensive scale.

This article is not concerned with the first two of these arguments, as they are not directly related to the question of debt policy as such, but rise from the market position of public securities in contrast with those of private borrowers. The third and fourth arguments run directly to the impact of federal fiscal policy upon the economy, and these need to be examined with the aid of some limited statistical data.

THE gross federal debt at year end 1947 was $257 billion. At the end of 1956 it was $278 billion, an increase of 8 per cent. Since the percentage increase of the gross national product in either current or constant dollars since that year has been greater (it amounts to 69 per cent in current dollars and to 30 per cent in constant dollars), it is obvious that some progress has been made toward "relative reduction." It must be remembered, however, that the increase in the gross national product over this period has been associated with public budgets which are at their all-time high on both federal and local levels.

The rise in prices over this period measures the difference between the current dollar and constant dollar levels of gross national product. The rise indicates, there-

TABLE I

OWNERSHIP OF UNITED STATES GOVERNMENT SECURITIES, DIRECT AND FULLY GUARANTEED

Par Value in Billions of Dollars

End of Month	*Total Gross Debt (Incl. Guaranteed Securities)*	*Held by U. S. Government Agencies and Trust Funds*	
		Special Issues	*Public Issues*
1941, December	64.3	7.0	2.6
1945, December	278.7	20.0	7.0
1947, December	257.0	29.0	5.4
1950, December	256.7	33.7	5.5
1951, December	259.5	35.9	6.4
1952, December	267.4	39.2	6.7
1953, December	275.2	41.2	7.1
1954, December	278.8	42.6	7.0
1955, December	280.8	43.9	7.8
1956, December	276.7	45.6	8.4

Held by the Public

End Of Month	*Total*	*Federal Reserve Banks*	*Commercial Banks*	*Mutual Savings Banks*	*Insurance Companies*	*Other Corps.*	*State & Local Gov'ts.*	*Individuals Savings Bonds*	*Individuals Other Sec'ties*	*Misc. Invest.*
1941, Dec.	54.7	2.3	21.4	3.7	8.2	4.0	.7	5.4	8.2	.9
1945, Dec.	251.6	24.3	90.8	10.7	24.0	22.2	6.5	42.9	21.2	9.1
1947, Dec.	222.6	22.6	68.7	12.0	23.9	14.1	7.3	46.2	19.4	8.4
1950, Dec.	217.5	20.8	61.8	10.9	18.7	19.7	8.8	49.6	16.7	10.5
1951, Dec.	217.2	23.8	61.6	9.8	16.5	20.7	9.6	49.1	15.5	10.6
1952, Dec.	221.6	24.7	63.4	9.5	16.1	19.9	11.1	49 2	16.0	11.7
1953, Dec.	226.9	25.9	63.7	9.2	15.8	21.6	12.7	49.4	15.4	13.2
1954, Dec.	229.2	24.9	69.2	8.8	15.0	19.8	14.4	50.0	13.1	13.9
1955, Dec.	229.1	24.8	62.0	8.5	14.3	24.0	15.1	50.2	14.7	15.6
1956, Dec.	222.7	24.9	59.4	8.0	12.8	18.8	15.7	50.1	16.9	16.0

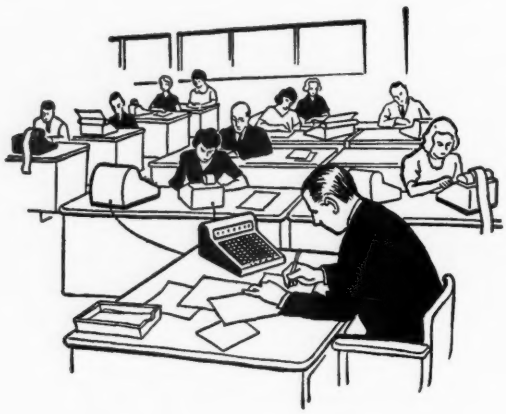
fore, that to some extent the other alternative, "dilution," is also being employed. Obviously, our policy in respect of the debt is still undetermined. We are, in effect, carrying water on both shoulders. We are accomplishing some relative reduction. We are permitting some dilution. Up to now the American economy has withstood this ambivalence. It remains to be seen whether or not this course can be continued.

Two points which bear upon this problem are: first, the relative stability of the federal debt since the close of the war and the rapid rise of private debt during the period of postwar expansion. Between 1947 and the end of 1956, total private debt rose from $180 to $416 billion, an increase of $236 billion. Corporate debt, both long and short term, accounts for almost exactly $100 billion of this total. Private debt, individual and noncorporate, accounts for the balance, and the largest segment of this is nonfarm mortgage borrowing which accounts for $83 billion of the $136 billion increase. A modest rise of roughly $10 billion in farm credits, both mortgage and nonmortgage, leaves a balance of $43 billion of private nonmortgage debt, representing a diversity of purchases, many of which were of items that had barely emerged from the laboratory when the Second World War ended.

The contrast between public and private debt is interesting in this connection because it reveals the way in which our appraisal of debt as such is changing. Traditionally, the public debt has been looked upon as the residue of heavy public consumption, such as the lavish use of men and goods in the course of a war. The analysis ran: Borrowing for consumption produces no permanent source of offsetting revenue and the effect is invariably inflationary. Wartime expenditures add to civilian income without adding to the supply of civilian goods and rising prices (despite efforts at price control which also have an ancient history) invariably follow. The events of the war period have been typically followed by resort to inflation.

Corporate debt, on the other hand, usually has the opposite effect. Current income is created and, better yet, tangible capital which added to the flow of goods is also created. Inflationary pressures upon credit can and do result, depending upon timing of investment, but, in general, this debt is noninflationary. Individual private debt, to the extent to which it involved financing consumption expenditures, is, however, generally regarded as inflationary.

The changed character of both public and private consumption and investment has tended to obscure these traditional judgments. Contemporary analysis tends to run thus: Much public expenditure, particularly in peacetime, tends to go into what the British call "social capital," within which they include not only public works of every character but housing and other types of collective property which create long-term goods. Similarly, although there is little literature on the point, an argument might be made for the capital character of many of the consumer's durables which are now so generally financed through the creation of individual private debt. Although the income created by these investments, if they may be called that in order to lend clarity to the point, is intangible, it is none the



The Threat of Inflation

"It does not seem to strain historical parallelism too much to say that government disinvestment at the present moment could bring about another upsurge in productivity. Recognizing the fact that the world situation calls for public budgets on a scale never heretofore known, steps to return to individual control any significant portion of the funds now used by the federal government are steps in the right direction. Otherwise, the combined pressures of taxation and personal debt upon disposable income will create irresistible demands for inflation and will reduce savings, the lifeblood of productivity, to a trickle."

less real, and a very large part of the real income which constitutes the American standard of living at the present moment is beyond doubt a product of investment of this type. This comparison is, however, a byway in this discussion and we leave it, pausing only to point out that the theoretical examination of the question of debt in our current economy cannot be pursued very profitably with the aid of the classical concepts alone.

TABLE I, page 734, contains current data on the ownership of United States government securities. These are critical points in the problem of debt management, and reference to these data is important in the analysis which follows.

Commercial bank holdings of the federal debt declined rapidly at the close of the war and have leveled off since that time. This has had two effects: First, it has reduced the immediate monetary impact of the debt. The monetary impact relates to the fact that federal securities (to the extent to which they are eligible for bank investment) are to all practical purposes the equivalent of cash. The relative

increase in the volume of bank eligible bonds since the close of the war is notable in this connection. The second effect of the reduction of public investments by the commercial banks has been to increase their ability to finance other types of investment, notably the expansion of industrial plant and the rising volume of individual borrowing for both mortgage and short-term purposes.

It is generally agreed that the reduction of commercial bank investment in government securities and its redirection toward private purposes has been advantageous, but it must be pointed out that now bank holdings of government paper are three times what they were prewar and twelve times what they were before the era of heavy public expenditure began in the thirties. To refer again to the contrast with the gross national product, it should be noted that the GNP in constant dollars is now only twice what it was when the Second World War began. Despite the reduction which has taken place, a certain amount of built-in inflation is apparent in these holdings.

THE second item which is important in this connection is the rapid rise in the federal debt holdings of federal agencies and trust funds. These holdings, unlike the investment of commercial banks and, for that matter, unlike the holdings of the Federal Reserve banks which are also leveling off, show a steady rise. While no one would argue that the investment of the funds of federal agencies and trusts is undesirable, there is a very grave question as to whether or not that investment should be made exclusively in federal securities. It is doubtful that funds in these amounts can be withdrawn from the private investment market and directed exclusively into federal uses without having important effects upon the character of the capital market itself.

Granted that these funds arise from special purpose taxation, for example social security taxes, and thus are not a part of individual disposable income, such as savings or other options, it still remains that much of their use in the operation of the Treasury is for current outlay, and thus they partake more of the nature of transfer payments than investments. In short, they are simply indicative of the fact that future taxation must be adequate to the obligations now being incurred. When we pause to consider the nature of those obligations, especially in the light of the changing age distribution of our population, the prospect of future tax reductions becomes very slim indeed.

WHEN the upward curve of federal agency investment in federal securities is viewed in contrast with the volume of private holdings of federal securities, the trend in the ownership of the public debt becomes startling. Both borrower and lender will be under the same control, and, in consequence, the temptation to resort to dilution will become steadily stronger.

While the relative size and the centralized control of the federal public debt give it the greatest significance in this problem, the trend of state and local debts must not be overlooked. These show an almost astronomical rise since the end of the war, with only a relatively small portion of refunding issues. While it must be admitted that our rising population and the increasing mobility and urbanization of our people call for greatly increasing

amounts of "public capital," a continuation of this trend will make Mr. Khrushchev's recent television assertion that our grandchildren will be living under Socialism the understatement of the year.

Paralleling the rise in all forms of public debt is the expansion of consumer credit; its current levels are indicative not only of a changing pattern of merchandising but of the reality of the average consumer's intent to "invest in himself." He not only intends to provide himself with personal capital, he apparently has every confidence in himself as a source of income.

OUTSTANDING consumer credit currently represents approximately 10 per cent of current disposable income. The architects of public fiscal policy are apparently confident of a limitless flow of tax income to offset the obligations which they are now undertaking. The consumer, similary, seems to have an equal confidence in the flow of personal income to offset the obligations which he has assumed with equal cheerfulness. The squeeze on disposable income which self-evidently must result from these parallel tendencies will almost certainly have serious repercussions upon the volume of individual saving—and we thus come to the central point of this discussion: Can relative reduction be accomplished through increasing productivity or is a resort to dilution inescapable?

The answer to this question lies in the continued health of the business system, the final source of the funds which pay both taxes and wages. Unless our overall economic policy is directed toward the maintenance of high productivity, a runaway inflation will inevitably result.

How can economic policy be directed toward the maintenance of high productivity? The answer lies in an appraisal of one of the arguments raised for the federal debt as an asset. The crucial problem is how do we manage the debt as a "warehouse of funds"?

UP to now we have successfully carried water on both shoulders, achieving some "relative reduction" of the debt, experiencing some dilution; but increasing amounts of our investment funds have gone into "social capital" which like the bulk of our "personal capital" is productive of intangible rather than tangible goods. Investment in corporate enterprise, the normal source of those marketable goods, whose relationship to the money supply determines the price level, although large, has been relatively lagging. This lag in productivity results in an imbalance of goods and income, comparable in its

¶ "IT *may be argued, very simply, that the public debt—that is, the federal debt, and the monetary and fiscal devices which are related to its management—has become the largest single controllable factor in the American economy, and that it, therefore, represents a change in the character of that economy comparable in impact to the changes which have resulted from the shifting character of competition in the past one hundred years.*"

inflationary effect to the federal securities in bank portfolios.

The principal offset to these built-in inflationary forces is the increasing efficiency and productivity of our tangible product plant. Many things have contributed to this trend: improved business organization, greater labor productivity, relatively larger proportions of total product from high yield industry (such as, for example, utilities and the chemical group), and the increasing use of automation and production line processes throughout practically every branch of industry.

Increased industrial productivity, however, depends to a greater degree than ever before upon the use of capital equipment. The industrial revolution began when accumulation of capital became possible. Its progress has always been *measured* by the level of mechanization and the availability of mechanical power but it is *fixed* by the supply of capital. That trend is not being reversed now. In fact, the curve of capital requirements is sweeping upward more sharply than ever before.

CAPITAL is called into being by the same market forces that produce the flow of any goods. When its yield is high, high prices will be offered for it and the supply will increase.

Historically, a great deal of industrial capital has been created in periods of public disinvestment. The reduction of the British public debt following the Napoleonic wars provided the industrial capital which created Britain's dominant economic position in the nineteenth century.

The reduction of our own Civil War debt financed our western expansion and the rise of American industrialism, although foreign investments by the more mature European economies were also significant.

The reduction of our post-World War I debt in the twenties held no small part in the boom of those years, although it has been said by many that better timing and better control might have ameliorated the collapse that followed.

It does not seem to strain historical parallelism too much to say that government disinvestment at the present moment could bring about another upsurge in productivity. Recognizing the fact that the world situation calls for public budgets on a scale never heretofore known, steps to return to individual control any significant portion of the funds now used by the federal government are steps in the right direction. Otherwise, the combined pressures of taxation and personal debt upon disposable income will create irresistible demands for inflation and will reduce savings, the lifeblood of productivity, to a trickle.

THIS problem, the supply of savings, is nowhere more acute than in the utilities industry, which employs more dollars of capital per dollar of product than any other. It has a tremendous need for new investment funds to permit it to serve the demands which its consumers impose. Its already heavy capital investment is going to increase absolutely and relatively as more remote and deeper gas fields must be developed and connected, as higher-cost fossil-fueled and atomic-powered electric-generating plants must be built. The number of dollars which the utility industry must find for investment will rise in the foreseeable future, at almost geometric progression. The industry is, therefore, greatly concerned not only

with the total available supply of savings, but with what Keynes has called "marginal efficiency of capital," which in practical terms is the yield on its incremental investment.

THE utilities therefore face two problems directly related to the management of the federal debt: First, to what extent can the supply of savings be directed away from public use and into productive business channels, and, second, how can the rise in the price of new plant be restrained by the reduction of inflationary pressure?

Although public utilities are heavy users of capital, they are not alone in facing this problem. The relative capital requirement of every industry is increasing. We must face straightforwardly the question of where we shall use the resources which are available. Not the least of these is savings.

As savings go increasingly into those forms of investment which add to the gross national product, the public debt will decline in significance and impact, the marginal efficiency of capital will be protected from inflationary erosion, and the processes of industrial expansion will be enabled to continue with a consequent improvement in that strength upon which the security of the free world depends.

The last of the arguments for the debt —that it is an essential part of the machinery for controlling economic forces through fiscal processes—raises questions which lie more clearly in the realm of public policy than in that of pure economics, but to the extent that we accomplish relative reduction, we reduce the need for such potent devices.

IN an efficient free market the stabilizing operations of the monetary authority, directly related to market forces themselves, should suffice. We cannot, of course, be sure that this will prove to be true until we have tried the experiment, and that experiment cannot be made until relative reduction has proceeded much further than it has now. Current fiscal policy should be boldly directed toward that end. Rising productivity should be recognized on every hand not as an end in itself, reflected in rising real income, but as the very means of political survival.

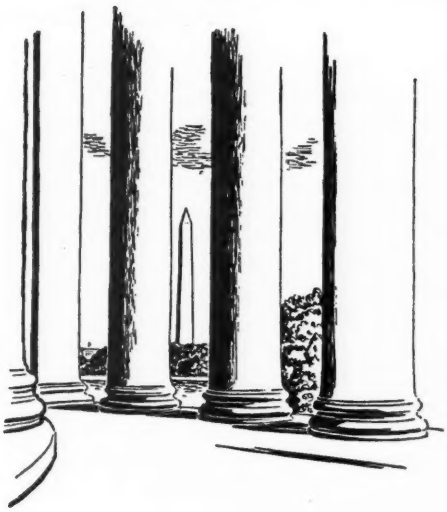
This is not a problem for finance, for industry, nor for government alone. It calls for a very high order of informed citizenship. Public utilities, from their immediate concern, should be able to offer much toward the solution of the most critical problem of economic policy the free world has ever faced.

"IN no other single area of the utility business is there as much benefit to customers and investors alike as in sound and considered financing.

"We have no preferred position with respect to the investing public. Industrial enterprise in every field will claim its share of capital, and government—federal, state, and local—will continue to impose a heavy demand on the money supply. In order to solve our fiscal problem, we must preserve a high degree of financial integrity."

—CHARLES E. OAKES,
President, Pennsylvania Power & Light Company.

Washington and the Utilities



Snake River Hearings

HEARINGS on the proposed Mountain Sheep-Pleasant Valley private power project in Idaho will be held by the Federal Power Commission this month, despite the lukewarm attitude of the Interior Department. There is some expectation that the FPC will approve its examiner's decision recommending that a combine of four private utilities—Pacific Northwest Power Company—be granted a license to build a single purpose power dam on the Snake river.

Although the Interior Department has never formally intervened in the case, Secretary Seaton did notify the FPC last February that his department was conducting detailed studies of comprehensive development of the area, seeming to imply that no decision should be made on the private company application until the studies had been completed. FPC Chairman Kuykendall has refused, however, to interpret Seaton's letter as a request to delay consideration of the private power project. The Interior Department studies were suspended after a congressional committee questioned the use of funds not specifically appropriated for this purpose.

The opposition to the private power project comes mainly from government power groups who prefer a high dam at the Nez Perce site on the Snake. The Interior Department is thought to lean toward a high multipurpose dam at Pleasant Valley, to be built either by the federal government or private industry. The principal objection to a Nez Perce high dam, pointed out by the FPC examiner's decision, is the present lack of workable fish passage facilities. The Interior Department has received virtually no support within the administration for its position in the matter. Faced with these realities, including the urgent need for additional power in the Pacific Northwest, the FPC may well be ready to give a green light to the private company proposal.

Seaton on Public Power

SECRETARY of Interior Seaton warned last month that the nation's skyrocketing power needs can only be met by the kind of "partnership" power policy adopted by the Eisenhower administration. Speaking to various groups throughout the country, Seaton said in a Chicago ad-

dress on October 14th that future electric power needs must be met mostly with steam plants or atomic energy, rather than hydroelectric generation. If the federal government is pushed into the steam plant business by government power zealots, Seaton said, "you will have to endure a major hike in the federal budget and a consequent increase in federal taxes."

Seaton called on federal, state, and local agencies to join private investors in the necessary development of $100 billion worth of new power facilities in the next twenty years. In a San Francisco address, he placed the blame for the power crisis in the Pacific Northwest squarely on past failure to foresee future needs. Seaton noted that in four and one-half years, the Pacific Northwest has been provided with almost three times as much licensed power capacity as it got during "twenty talkative years" of Democratic administrations. Insistence on a policy of "federal dams or no dams at all" will guarantee a perpetual power shortage, Seaton declared.

AEC Developments

JERRY VOORHIS, executive director of the Co-operative League of the U. S., does not believe that the Atomic Energy Commission "under its present leadership" will ever build a reactor for an REA electric co-op. Voorhis was referring to the failure of recent negotiations which resulted in canceling plans for a nuclear plant to be operated by the Elk River (Minnesota) Rural Co-operative Power Association and a Michigan co-op proposal which had been canceled earlier. Both of these proposals ran into constantly mounting costs which made their completion prohibitive. Voorhis charged that the AEC "is dragging its heels at the doorway of a planned program for an experimental reactor development which elected representatives of the American people enacted into law." Voorhis claimed that there was good reason to question the AEC's intention to build a co-op reactor anyway.

AEC's power policies were recently defended by AEC member Harold S. Vance. He denied that the commission has taken sides against co-operative power interests. Vance said the AEC is doing its best to help both company and co-op power systems with their respective reactor programs under its mandate from Congress to "strengthen free competition in private enterprise."

With respect to the perennial debate over government *versus* industrial development of electrical power, Vance said, "the commission does not take a position in this controversy, accusations to the contrary notwithstanding. . . . If our assistance is in favor of one as against the other, it is in favor of public groups such as the co-operatives, not because we choose to take sides with them, but because their resources . . . are more limited than are the resources of private groups." Vance did not elaborate on why this difference in resources exists or make any other references to rate structures and tax privileges which might embarrass co-operative or municipal groups.

REA's policy in regard to nuclear energy for rural power generation will be governed by the realities of science and economics, REA Administrator David Hamil said early last month. Describing REA's approach as an "open-door" policy, Hamil told the second REA-sponsored nuclear power conference, held in Washington, D. C. (see page 760), that REA was willing to aid its borrowers in gaining early access to the economic advantages of using nuclear atomic fuels for electric power production. But he conditioned

such aid on a showing of economic feasibility. REA plans to continue to work closely with AEC and electric co-ops in contract negotiations for nuclear power plants. "At the same time," Hamil said, "we need to make certain that our borrowers do not unknowingly commit themselves to obtain, or use, REA funds for purposes not authorized in the Rural Electrification Act."

Only one protest was raised against AEC plans to construct an atomic-fueled power plant at Rowe, Massachusetts. Yankee Atomic Electric Company seeks a permit to begin construction of the nuclear reactor. AEC proposed last September to issue a permit pending request for a public hearing and a final AEC ruling. The single written protest, read at the AEC hearing, stated that the research and development grant would be a waste of public funds and that diesel power would be far cheaper in producing electricity. William Webster, president of Yankee Atomic Electric Company, testified on the company's financial position. AEC's reactor hazards staff testified that the plans were sound in terms of public hazards. A final AEC decision will be forthcoming in the near future.

TVA Plans Big Plant

TVA's decision to construct an $86 million steam-generating power plant has put the government power bloc in Congress in a difficult position. It must now either do something about approving TVA self-financing via revenue bond issues or permit the program to move ahead on a pay-as-you-go basis out of current revenues. It is being widely noted that plans for the first major TVA construction project since 1952 were approved by two Eisenhower appointees—TVA Chairman Herbert Vogel and Arnold Jones. Both Vogel and Jones have been pictured by their critics as hand-picked agents for the ultimate destruction of TVA. Their decision to go ahead with construction of the 500,000-kilowatt plant—one of the largest steam power units in the nation—should take much of the steam away from the drive of opponents to block Senate confirmation of Arnold Jones for a 10-year term on the TVA board. Jones is now serving as an interim appointee.

Construction of the new TVA plant will be financed originally from TVA revenues. When the new plant goes into operation, TVA's total power capacity will be 11,745,485 kilowatts, of which 6,275,000 kilowatts will be generated by steam and the remainder by hydroelectric plants. TVA's financial statement for fiscal 1957 showed a net revenue of $58.1 million from the sale of electricity, $4.2 million more than the previous year. Total power operating revenues were $235,733,000, or $14.1 million more than during fiscal 1956. The net revenue represents a return of 4 per cent on the average investment in power facilities of $1,470,000,000.

FPC Examiner Backs Midwest Gas Supply Boost

A Federal Power Commission examiner has ruled that five natural gas pipeline companies should be allowed to build nearly $182 million worth of facilities to increase gas supplies available in the Midwest, principally in the Chicago area. The decision by Examiner Glen R. Law will become a final commission order if no review is initiated within thirty days.

It covers projects by Natural Gas Pipeline Company of America, Texas Illinois Natural Gas Pipeline Company, and Chicago District Pipeline Company, all of Chicago; Pacific Northwest Pipeline Corporation, Salt Lake City; and Colorado

Interstate Gas Company, Colorado Springs, Colorado. The applications of the companies were interdependent. They formed primarily a unified proposal designed to make available an additional 485 million cubic feet of gas a day to midwest areas.

Pacific Northwest would be authorized to sell gas to Colorado Interstate. In turn Colorado Interstate would make sales to Natural Gas Pipeline Company. Natural, Texas Illinois, and Chicago District are affiliates in the system of the Peoples Gas Light & Coke Company. They are operated as a single integrated system primarily supplying gas for ultimate consumption in Chicago and adjacent areas in northern Illinois and Indiana.

Natural's project would cost $76,199,000. It includes 415.7 miles of line between Beatrice, Nebraska, and Joliet, Illinois. Under the decision Natural would become the sole seller to its customers and those of Texas Illinois, and the latter company would abandon its sales. Chicago District proposes a $13 million expansion between Joliet and Chicago.

Colorado Interstate would build more than 700 miles of pipeline and other facilities estimated to cost $86,934,900. They would be in Colorado, Oklahoma, and Kansas. Pacific Northwest would build $5,757,750 worth of facilities.

FPC Invites Comments on Gas Merger

OCTOBER 31st was the deadline set by the Federal Power Commission on comments which it invited with respect to the proposed El Paso Natural Gas Company merger with the Pacific Northwest Pipeline Company. The proposed combination, whereby El Paso would virtually take over Pacific Northwest, had run into some opposition in California, where El Paso operates, and in Oregon and Washington, served by Pacific.

California utilities have contended the merger would give El Paso a monopoly on gas from the San Juan basin of New Mexico and Colorado. Pacific Northwest consumers have voiced fear that the merger might result in diversion of all San Juan gas, some of which is now brought into the Northwest by Pacific, to the California market.

In its pending action before the FPC, El Paso seeks to obtain a certificate of public necessity to acquire and operate the 2,125-mile pipeline system now held by Pacific. "By the merger," the commission said in a notice published recently in the *Federal Register*, "El Paso proposes to succeed to all rights, obligations, franchises, and privileges of the Pacific and to render any and all services now rendered or contemplated by Pacific."

API Speakers Listed

FRANK M. PORTER, president of the American Petroleum Institute, recently announced that two United States Senators, Robert S. Kerr of Oklahoma and Everett M. Dirksen of Illinois, will be among the speakers at the thirty-seventh annual meeting of the American Petroleum Institute in Chicago, November 11th to 14th. The two Senators will replace Secretary of Interior Fred A. Seaton and Senate Majority Leader Lyndon M. Johnson of Texas, who were obliged to change their earlier plans to address the Chicago meeting. Other speakers for the two general sessions will include Charlton H. Lyons, president, Mid-Continent Oil and Gas Association, Shreveport, Louisiana, and Philip D. Reed, chairman of the board, General Electric Company, New York.

Telephone and Telegraph

USITA Celebrates Sixtieth Anniversary

THE national independent telephone association celebrated its sixtieth anniversary in Chicago last month. Past accomplishments of the industry were stressed by most of the prominent speakers. But concern over the future development of both the Bell system and the independent industry ran through the addresses of Frederick R. Kappel, president of American Telephone and Telegraph Company, and Donald C. Power, retiring president of USITA and president of the General Telephone Corporation.

Donald C. Power, in his address to the convention, made it clear that the independent industry does not accept the view that the telephone industry should be confined to a conventional station-to-station operation and that the newer forms of communication service should be closed to the industry. "We consider the telephone business, not as a static art, but as a dynamic service which should be permitted to expand in scope as new technical facilities and practices become developed."

Only in the telephone business is there a real substitute for living, spontaneous conversation between persons, for the free exchange of ideas or other human intelligence on a confidential person-to-person basis, Power said. "So if we are to fulfill our obligation of public service in the telephone business, our industry must be permitted to expand its scope in any manner in which two-way voice communication can be effected, whether it be by wire or cable or radio relay, or mobile radio, or point-to-point microwave. . . . There is no logic in cramping the scope of the telephone industry by denying or unreasonably curtailing the industry's use of these new arts."

ALTHOUGH Power believes there is a great future in store for the independent branch of the telephone industry, he warned that there are some "darker and deeper tones, as well as bright spots and silver linings." One of the dark spots is obviously the shadow of inflation. Public utilities, he noted, are particularly vulnerable to an erosion in real earnings because of inflationary dilution of revenues. They can suffer serious financial injury unless ways and means can be discovered to protect their earning position in terms of actual purchasing power.

Along side of inflation, Power continued, the industry has more recently been confronted with the problem of the increasing cost of money. He said:

> . . . Some of our present regulatory thinking which looks to the past instead

of the future, and insists on regarding original cost dollar investment without regard to the loss of present-day dollar value, is getting more and more out of step with the times. The result of this kind of thinking, where it exists, is to put our telephone industry and other regulated public utilities in a financial strait jacket. It amounts to regarding the utility investor as a second-class citizen, financially. It has the effect of telling him that every other industry, every other business, every other type of investor is entitled to share proportionately in the growth of our economy, but he cannot share in it. . . .

Power expressed confidence that responsible regulatory authorities will face up to the requirements of essential public service industries, and will do what is necessary to keep an adequate flow of investment capital available to the industry.

On the brighter side of the picture, Power sees a great opportunity for the independent industry in the tremendous growth of smaller communities throughout the nation where the independents first started out. Power said:

> . . . one of the real problems of our city planning and economy in the future would appear to be how to save the central districts of our older and larger cities from developing into slums. The more affluent taxpayers are moving out, and the tax eaters are moving in. While this is a matter of concern to all of us, our independent industry finds itself in a relatively better position because our operations have been from the very beginning not based, mainly, on serving the central areas of the older, larger cities. . . .

It is these small communities, he pointed out, which today are experiencing the greatest proportion of growth in business activity as well as population. "The opportunity is ours, therefore," he added, "if our companies can equip themselves to take advantage of what the future brings."

Power took note of the concern expressed in the industry over the declining number of independent company organizations. In 1927 there were 8,000 independent companies, while today there are approximately 4,400. But Power pointed out that the decline has been more or less constant. "What is more important," he said, "is the fact that these surviving 4,400 companies are today doing more business than ever before, serving nearly 11,000 exchanges with over 9.5 million telephone stations. With an investment of $2.4 billion, they serve nearly two-thirds of the land area of the country." These independent companies are stronger and better equipped than ever before in the history of the industry, Power said. "There is every reason to believe that growth will continue and that economic strength will increase."

The telephone industry must show the commissions and the public that the only way to telephone progress is through telephone prosperity, Kappel told the convention. "Telephone service has been a low-earning enterprise now for a long time," he said. "It ought not to be." Kappel said a large segment of the public and too many commissions seem to think that low earnings mean low rates and good earnings mean high rates, whereas the fact is that good earnings, in the long run, mean quality service at lower cost to the user, and good service is much more important to telephone customers than the precise rate they pay. Kappel stated:

> Is it asking too much of regulatory commissions to exercise in fullest meas-

ure their practical judgment, their imagination, and their political courage? I am sure it is not. And I am especially sure of this when I reflect that the problems which confront the regulator when a business is successful . . . are as nothing compared with the problems which confront him when a business doesn't have the money to do what ought to be done.

Kappel said he could not believe that many states expect to attract other industry and raise employment and prosperity "at the same time they regulate telephone expansion and employment down. It is our job to demonstrate that every state needs our financial good health, not only for what this means in direct telephone employment and wages, but equally or even more for what we can do to help make the state attractive to others. One of the first things any industry wants to be sure of is that it can count on full and fine service from us."

COMPETITION in providing communication services is clearly a source of concern to both branches of the telephone industry. The battle over radio frequencies and new radiotelephone services is now being fought before the Federal Communications Commission. The outcome will have an important bearing on whether the telephone industry is to be the predominant agency in the future for over-all communications service in the nation. Kappel noted:

> It seems there are quite a few noncommunication companies today that would like to provide a considerable part of their communications themselves, without depending on the common carriers. In particular, they want to build private microwave radio systems and are asking the FCC for permission to do so.
>
> Of course, this goes against the basic principles and experience which have shown that the public interest depends on common carrier service. Indiscriminate licensing of noncommon carriers to build their own systems would not only sacrifice the most efficient use of the radio spectrum, it could very seriously interfere with the ability of the telephone companies to serve the public at reasonable prices.
>
> We are sure that common carrier service results in lower costs to the public. We are confident it also makes possible much more efficient use of the radio spectrum. We know a strong common carrier network is a much greater asset in time of emergency or war than a fragmentized hodgepodge of private systems could ever be.

MERCHANDISING in the telephone business could stand some improvement, according to B. C. Ames, director of merchandising, General Telephone Corporation. Ames told the convention that, in the consumer area particularly, the industry is in competition with literally hundreds of industries selling goods and services that are competing directly for a share of total consumer spending power. Many of these industries, he noted, have shown a startling ability to outcompete the telephone industry.

"It is the safest prediction in the world," Ames said, "that this competition will increase in its intensity. It seems to me that this suggests the conclusion that unless we fight for our share, for a growing share, of the consumer's spending power, there is a real possibility we could slip backward from the 1.6 per cent of GNP . . . to a smaller share."

Financial News and Comment

By OWEN ELY

Scaff Criticizes "Conformance" Of Book to Tax Accounting

HAROLD H. SCAFF, vice president of Ebasco Services Incorporated, gave an address before the forty-ninth annual convention of the Southern Gas Association, which is reprinted in the September issue of the *AGA Monthly*. He discussed the theory of conforming income tax accounting with corporate accounting and stated forcefully that "if the proponents of the conformance ideas were ever successful, great harm could result to the regulated industries, to our economy, and even to the integrity of accounting principles."

Mr. Scaff took the view that there is a wide difference between corporate accounting, which reflects the financial status of an enterprise, and taxation under the Internal Revenue Code, which reflects political considerations and economic and social policies. As examples of the influence of economic policy not logically sanctioned by accounting principles, he mentioned the provisions of the tax laws relating to LIFO valuation of inventories, accelerated depreciation, and percentage depletion. Thus tax regulations, which are enacted by legislators and interpreted by the courts, may frequently clash with good accounting procedure.

Prior to the 1954 Tax Code, the declining-balance method resulted in increasing the current depreciation rate about 50 per cent over the straight-line rate, and with the coming of the 1954 Code the rate is now double the straight-line rate. Mr. Scaff doubts whether this change could be considered "a sound accounting principle." Another example of lack of coherence or principle is the fact that the new depreciation rate could be applied only to property acquired or built since January 1, 1954.

AGAIN, there is the question of whether any effort should be made to conform the accounting of rate regulation with the book accounting of historical rec-

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ord. In regulated industries, regulation acts in general as a substitute for direct competition, although there are still some competitive factors—for example, between gas and electric appliances, and between gas and other fuels—also competition in the raising of funds between utilities and others. Regulation has to be flexible and not bound too heavily by cost accounting, which is based on previous values rather than current ones. Mr. Scaff describes it this way:

> The very fact that nonregulated industry in times of inflation can maintain the purchasing power of the investors' dollar by pricing on the basis of present values, while the utility, if tied to historical cost, cannot, creates a risk which might well impede utility financing, unless regulatory bodies recognize the basic economic facts of life.

Obviously, if book accounting is designed to provide an historical record of plant costs while the rate base should recognize current prices or fair value, the two cannot be "conformed." In time of inflation depreciation based on cost, if applied to a fair value rate base, would overstate value, while in time of deflation it would understate the value. Accounting is necessarily historical while rate regulation is for the future. Regulation must be flexible enough to anticipate nonrecurring expense items, anticipated changes in wage rates and prices, etc. In regulation, accounting data merely form a starting point.

MR. SCAFF feels that utility companies which normalize tax deferrals are making a mistake. They have done so in the apparent belief that normalizing taxes and income would prevent having to pass these amounts on to customers in rate cases. Had the companies considered rate making as economic and as distinct from cost accounting, "the entire matter of amortization and accelerated depreciation would be treated on its merits in rate cases and the treatment would not in any sense have to follow, nor be based upon, what the utility had done on its corporate books of account."

He also pointed out that it is inconsistent now for the utilities to begin normalizing for tax deferrals under the 1954 Code, while they had previously been claiming more straight-line depreciation for tax purposes than for corporate purposes, without any thought of normalization. There were already, prior to 1954, fairly substantial differences in depreciation reserves on the tax books and in the corporate accounts, but no one was then concerned about trying to normalize the accruals.

Mr. Scaff concluded:

> Certain accounting principles, such as the matching of income and expense, could well be observed in income tax rules, but the corporate financial statements hardly afford an equitable basis for determining income tax liability. . . . With respect to rate regulation, the prospect of conformance of corporate accounting is even more alarming. As I have tried to demonstrate, both the indirect competition with alternative services on sales, and the direct competition with other industries and institutions in financing, make values, rather than costs, the criterion of adequate compensation of the investor.

Utility Financing Continues at High Level

UTILITY financing for the first nine months of 1957 and 1956, as shown in detail in the table on page 752 pre-

pared by Ebasco Services, was as follows by divisions of the industry:

	Millions		
	1957	*1956*	*Increase*
Electric Utilities	$2.0	$1.1	82%
Gas Utilities	.9	.5	80
Telephone Utilities ..	.9	1.2	D25
Total Including Miscellaneous ...	$3.8	$2.8	36%

Refunding operations and divestments remained negligible in amount, hence the financing may be considered as practically all "new money."

Common stock financing comprised the following percentages of total financing in the two periods:

	1957	*1956*
Electric Utilities	20%	18%
Gas Utilities	7	4
Telephone Utilities	6	53
Total Including Miscellaneous .	14%	31%

The proportion of equity financing does not necessarily reflect any corresponding effects on equity ratios, since conversion of convertible issues into common stock, as well as retained earnings, are also factors. Convertibles are a favorite financing method of the pipeline and integrated gas utilities.

September bond financing was quite active (see table below) though there were only a few offerings of preferred and

SEPTEMBER UTILITY FINANCING

PRINCIPAL PUBLIC OFFERINGS OF ELECTRIC AND GAS UTILITY SECURITIES

Date	*Amount (Mill.)*	*Description*	*Price To Public*	*Underwriting Spread*	*Offering Yield*	*Aver. Yield For Securities of Similar Quality*	*Moody Rating*	*Success Of Offering*
		Bonds and Debentures						
9/5	$12.0	Louisville G.&E. 1st 4⅞s, 1987	101.19	.80C	4.80%	4.29%	Aa	a
9/5	1.5	Northwestern P.S. 1st 5⅛s, 1987	101.78	1.03C	5.75	4.61	Baa	a
9/9	18.0	Tampa Elec. 1st 5s, 1987	102.36	.75C	4.85	4.29	Aa	b
9/11	50.0	Duke Power S.F. Deb. 4⅞s, 1982* ...	102.00	.74C	4.74	4.30	Aa	d
9/11	30.0	Texas East. Trans. 1st 5⅝s, 1977*	99.00	1.13N	5.71	4.66	Baa	a
9/12	12.3	Westcoast Trans. Sub. Conv. Deb. 5½s, 1978**	104.00	3.00N	5.19	—	—	a
9/13	40.0	Phila. Elec. 1st 4⅝s, 1987	100.00	.71C	4.63	4.25	Aaa	—
9/17	50.0	Niagara Mohawk Power Gen. Mtg. 4⅞s, 1987	100.87	.73C	4.82	4.69	Aa	c
9/17	2.5	Wisconsin Nat. Gas 1st 5¼s, 1982	102.05	1.55C	5.35	4.57	A	a
9/18	30.0	Cons. Nat. Gas Deb. 5s, 1982*	102.00	.83C	4.86	4.27	Aaa	a
9/19	1.1	Carolina Pipeline Units†	27.00	1.89N	—	—	—	d
9/19	20.0	Pacific P.&L. 1st 5⅜s, 1987	100.71	1.49C	5.70	4.69	Baa	a
9/24	35.0	Consumers Power 1st 4⅜s, 1987*	100.64	.82C	4.71	4.25	Aaa	d
9/25	15.0	Utah P.&L. 1st 5⅛s, 1987	102.29	.78C	5.10	4.59	A	a
		Preferred Stocks						
9/18	7.0	Calif. Elec. Power 6% (Par $50) ...	50.00	1.05N	6.00	—	—	a
		Common Stocks—Offered to Stockholders					*Earns.-Price Ratio*	
9/9	6.0	Tampa Electric	27.50	.20N	4.37	—	6.2	e
9/20	4.7	Wisconsin Public Service	18.50	.18	6.49	—	10.0	f
		Common Stocks—Offered to Public						
9/19	1.8	Carolina Pipeline	6.00	.60N	—	—	—	—
9/25	9.2	Utah P. & L.	23.00	1.34C	5.22	—	7.6	a

*Cash sinking fund. **Convertible initially at 35. †Units consist of a $25—7 per cent interim note due 1963 and one share of common stock. N—Negotiated. C—Competitive. a—Reported well received. b—Reported fairly well received. c—Reported the issue sold rather slowly. d—Reported that the issue sold slowly. e—135 per cent subscribed, 95 per cent under primary privilege, and 40 per cent by oversubscription. f—Offered to stockholders on a 1-for-10 basis.

Source, Irving Trust Company

common stocks. The quarter-billion issue of AT&T debentures is due October 29th. Pending equity issues in October and November include some 263,000 shares of Public Service of New Hampshire, 1 million shares of Transcontinental Gas Pipe Line, and 452,000 shares of Middle South Utilities.

Higher Rates of Return Allowed in 1957 Rate Cases

THE recently issued Supplement No. 1, by Arthur Andersen & Co., entitled "Return Allowed in Public Utility Rate Cases," will be found of considerable interest by those who perceive some consistent significance in comparing bare return allowances in utility rate cases over a given period of years. But to the precise analyst, it is still subject to the same basic and probably inescapable objection that historically utility rate bases have varied widely in their composition (as between fair value and original cost and their variations) over the years—often within the same states. Thus, comparison of a 6 per cent return on a cost base in 1956 with a 6 per cent return on a value base or upon some intermediary base in an earlier year, yields at best a line on a chart projected over the years which can be used as a point of departure for more careful analysis.

Because the recent supplement comes out as it does almost at the end of 1957, it must be kept in mind that the cut-off date was 1956. This obviously explains the absence of notice of the new fair value statute in Minnesota, or the new cost value statute in Maine, both of which occurred earlier this year.

And it must also be kept in mind that this study is apparently based on decided cases—not laws on the statute books—which doubtless explains the absence of reference to a 1955 reproduction cost statute adopted in Mississippi. With respect to strictly case law, the New York court of appeals decision in the New York Telephone Company case, decided in 1956, 12 PUR3d 399, would seem to warrant some attention, even if it does affect only telephone and transit companies, especially since notice was given to an interim subsequent decision of the New York commission (14 PUR3d 82) in which the rate base was expressly and by agreement precluded as an issue.

THE foreword summarizes the differing character of the rate base in different states. With respect to rate of return, the states are listed which use the "cost of capital" concept, those which recognize the attrition of earnings due to higher costs, etc. The average rates of return for 1956 were obviously too early to reflect the effect of rising money rates: In electric utility cases the average rate of return dropped from about 5.8 per cent to about 5.7 per cent, while in the gas utility cases it rose from 6 to 6.3 per cent. In telephone cases the average remained at 6 per cent, as it had since 1949. In water utility decisions the average of 6 per cent registered a gain over the 5.6 per cent recorded for the previous year.

During 1957, however, there has been a definite increase in allowed rates of return but unfortunately some of these decisions were accompanied by adjustments of rate base and other accounting changes which in effect nullified part of the increase. In the recent Florida Power & Light decision, the commission allowed nearly 7 per cent on the rate base as fixed by the staff, but on the company's own rate base the return would have been about 6½ per cent.

In California in the Southern Counties

PUBLIC UTILITIES SECURITIES OFFERED FOR SUBSCRIPTION AND/OR SALE

(000 omitted)

	January 1 to September 30, 1957					January 1 to September 30, 1956				
	Total	Electric Companies	Gas Companies	Telephone Companies	Other Companies	Total	Electric Companies	Gas Companies	Telephone Companies	Other Companies
Long-Term Debt										
Offered Publicly	$2,548,674	$1,283,500	$557,379	$703,795	$ 4,000	$1,373,585	$ 661,500	$213,585	$ 488,000	$10,500
Offered Through Subscription	205,573	101,052	60,000	44,521	-	111,806	59,779	1,173	50,854	-
Offered Privately	351,320	150,950	121,360	60,460	18,550	233,362	27,500	137,315	40,000	28,547
Total	$3,105,567	$1,535,502	$738,739	$808,776	$22,550	$1,718,753	$ 748,779	$352,073	$ 578,854	$39,047
Preferred Stock										
Offered Publicly	$ 161,057	$ 59,057	$ 71,000	$ 28,750	$ 2,250	$ 239,242	$ 134,265	$ 89,000	$ 15,977	-
Offered Through Subscription	47,522	1,639	45,483	400	-	37,902	32,836	5,066	-	-
Offered Privately	4,250	-	-	750	3,500	21,900	10,600	2,500	7,500	$ 1,300
Total	$ 212,829	$ 60,696	$116,483	$ 29,900	$ 5,750	$ 299,044	$ 177,701	$ 96,566	$ 23,477	$ 1,300
Common Stock										
Offered Publicly	$ 149,665	$ 120,856	$ 23,018	$ 1,103	$ 4,688	$ 75,765	$ 63,362	$ 1,851	$ 8,479	$ 2,073
Offered Through Subscription	403,030	291,524	58,837	49,669	3,000	791,655	141,254	16,454	633,947	-
Total	$ 552,695	$ 412,380	$ 81,855	$ 50,772	$ 7,688	$ 867,420	$ 204,616	$ 18,305	$ 642,426	$ 2,073
Total Financing	$3,871,091	$2,008,578	$937,077	$889,448	$35,988	$2,885,217	$1,131,096	$466,944	$1,244,757	$42,420
	Segregation of Financing - By Purpose									
Total Refunding	$ 69,463	$ 12,835	$ 53,500	$ 2,303	$ 825	$ 60,098	$ 4,026	$ 20,160	$ 34,482	$ 1,430
Total Divestments	$ 35,881	$ 9,975	$ 21,218	-	$ 4,688	-	-	-	-	-
New Money										
Long-Term Debt	$3,039,232	$1,522,667	$685,239	$808,776	$22,550	$1,677,163	$ 748,779	$331,913	$ 558,854	$37,617
Preferred Stock	209,701	60,696	116,483	27,597	4,925	280,536	173,676	96,566	8,994	1,300
Common Stock	516,814	402,405	60,637	50,772	3,000	867,420	204,615	18,305	642,427	2,073
Total New Money	$3,765,747	$1,985,768	$862,359	$887,145	$30,475	$2,825,119	$1,127,070	$446,784	$1,210,275	$40,990
Total Financing	$3,871,091	$2,008,578	$937,077	$889,448	$35,988	$2,885,217	$1,131,096	$466,944	$1,244,757	$42,420
	Segregation of Financing - By Type									
Competitive Bidding	$2,300,330	$1,334,830	$265,500	$700,000	-	$1,331,790	$ 716,940	$116,350	$ 488,000	$10,500
Negotiated Sales	$ 559,066	$ 128,583	$385,897	$ 33,648*	$10,938	$ 356,802†	$ 142,187	$188,086	$ 24,456	$ 2,073
Subscription										
Competitive Bidding	$ 157,317	$ 106,834	$ 50,483	-	-	$ 53,721	$ 48,655	$ 5,066	-	-
Negotiated Sales	372,516	200,054	113,566	$ 58,896	-	173,711	96,235	9,455	$ 68,021	-
No Underwriting	126,292	87,327	271	35,694	$ 3,000	713,931	88,979	8,172	616,780	-
Total Subscription	$ 656,125	$ 394,215	$164,320	$ 94,590	$ 3,000	$ 941,363	$ 233,869	$ 22,693	$ 684,801	-
Private Sales	$ 355,570	$ 150,950	$121,360	$ 61,210	$22,050	$ 255,262	$ 38,100	$139,815	$ 47,500	$29,847
Total Financing	$3,871,091	$2,008,578	$937,077	$889,448	$35,988	$2,885,217	$1,131,096	$466,944	$1,244,757	$42,420

* Includes $3,000,000 of Preferred Stock not underwritten.

† Includes $14,377,000 of Preferred Stock not underwritten.

Ebasco Services Incorporated

Gas case the commission raised the rate of return from the 6 per cent allowed in a 1954 case to an immediate 7.13 per cent and a later 6.5 per cent. In the California Water & Telephone case it allowed a return of 6.5 per cent contrasted with 5.75 per cent in 1952. And in the recent and very important Southern California Edison decision (No. 55703) it allowed a current return of 6.37 per cent and an estimated 1958 return of 6.25 per cent. A rate increase of about $25 million was allowed as compared with the requested $34 million.

HOWEVER, the commission virtually ruled that the company must use straight-line depreciation in its income tax returns (so far as §167 options are concerned, with respect to accelerated depreciation). The decision stated: "Should applicant, despite this decision, elect to claim accelerated depreciation in its tax returns for the test year or any future year before a final decision is rendered by the commission on this issue, it shall immediately report such election to the commission; and the commission will promptly move to adjust the rates herein authorized in such manner as it may find to be appropriate." The commission refused to strike from the record the staff's evidence favoring the "flow-through" method of treating accelerated depreciation and amortization tax savings, which would result in a higher rate of return, since "the commission may desire to consider the staff's computations in a supplementary order." However, the commission was willing to accept the use of accelerated amortization, remarking that "the situation is substantially different," and to accept the normalization of resulting tax savings in the income account.

In the recent New York Telephone decision, the New York Public Service Commission ruled that the company should be allowed a 6½ per cent return based on original cost of investment, rather than the previous maximum of 6 per cent. The commission granted an increase in revenues of about $33 million compared with the request of over $55 million.

Thus it would appear that the current trend is toward a fair return for electric utilities of 6¼-7 per cent contrasted with an earlier 5½-6 per cent; while for gas companies it appears likely that average rate of return may be raised to 6½-7 per cent as contrasted with about 6-6½ per cent earlier. But it is difficult to be categorical about rates of return when the decisions frequently make offsetting adjustments in rate base and in income account.

USITA Has Prevented Public Ownership in the Telephone Field

DONALD C. POWER, ex-president of the United States Independent Telephone Association and of General Telephone Corporation, in June delivered an interesting address to the association on "The First Sixty Years." The association was formed in 1897 to represent hundreds of independent telephone companies created after the expiration of the Bell patents in 1893-94, at a time when competition was rampant between the Bell system and the independents. Bell concentrated mainly in the large cities, but the independents brought service to the villages and hamlets, thus filling a void. In the early days of World War I the independents merged their two associations and worked out a co-operative arrangement with the Bell system designed to restrict competition, interconnect all sys-

tems for long-distance service, and thus keep the telephone business on a private enterprise basis.

The telephone business outside of this country is, to a large extent, publicly owned and operated. During the Woodrow Wilson régime Postmaster General Burleson advocated government ownership and there was some sentiment in Congress for it. Great Britain had put its entire service under the Post Office monopoly several years earlier. In the wartime emergency in 1917 our Post Office Department did temporarily take over control, but the private companies resumed service when the war ended, and there has been no further agitation for government ownership—despite infiltration of public agencies into all other branches of the utility industry.

RECENT FINANCIAL DATA ON GAS UTILITY STOCKS

Annual Rev. (Mill.)			10/16/57 Price About	Divi. dend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
		Pipelines									
$ 4	O	Ala.-Tenn. Nat. Gas	19	$1.20	6.3%	$1.42Je	—	14%	13.4	85%	40%
16	O	Commonwealth N. G. ...	31	1.60	5.2	2.92Je	7%	X	10.6	55	39
17	O	E. Tenn. Nat. Gas	8	.60	7.5	.84Au	5	X	9.5	72	19
19	O	Gulf Interstate Gas	9	.50	5.6	.77De	—	—	11.7	65	18
71	S	Miss. River Fuel	29	1.60	5.5	2.33De	16	8	12.4	69	50
80	S	Southern Nat. Gas	37	2.00	5.4	2.36Je	NC	4	15.6	85	46
268	O	Tenn. Gas Trans.	27	1.40	5.2	1.93Au	NC	18	14.0	73	20
175	O	Texas East. Trans.	22	1.40	6.4	2.03Je	D7	3	10.8	69	24
71	O	Texas Gas Trans.	20	1.00	5.0	2.17Je	4	4	9.2	46	27
88	O	Transcont. Gas P. L.	18	1.00(u)	5.6	1.55Je	25	19	11.6	65	19
		Averages			5.8%				11.9	68%	
		Integrated Companies									
158	S	American Nat. Gas	50	$2.60	5.2%	$3.88Je	D15%	13%	12.9	67%	34%
50	A	Arkansas-Louis. Gas	23	1.20j	5.2	1.60Je	11	23	14.4	75	56
47	O	Colo. Interstate Gas	50	1.25	2.5	4.56Je	D16	36	11.0	27	35
343	S	Columbia Gas System ...	16	1.00	6.3	1.30Je*	D11	7	12.3	77	46
7	O	Commonwealth Gas	6	q	—	.54De	107	D	11.1	19	76
12	S	Consol. Gas Util.	13½	.90	6.7	1.45Jy	D2	—	9.3	62	64
266	S	Consol. Nat. Gas	39	1.90	4.9	3.51Je	6	4	11.1	54	65
186	S	El Paso Nat. Gas	28	1.30	4.6	2.02Ma	10	7	13.9	64	27
44	S	Equitable Gas	27	1.60	5.9	2.13Je	D11	4	12.7	75	36
17	O	Kansas-Nebr. Nat. Gas ..	33	1.65(r)	5.0	2.58Je	D1	3	12.8	64	30
95	S	Lone Star Gas	31	1.80	5.8	2.40Je	—	5	12.9	73	43
25	S	Montana-Dakota Util. ..	21	1.00	4.8	1.45Je	D3	19	14.5	69	32
23	O	Mountain Fuel Supply ..	22	1.20	5.5	1.68Je	NC	9	13.1	71	53(s)
81	S	National Fuel Gas	17	1.10	6.5	1.43Je	D15	8	11.9	77	62
113	S	Northern Nat. Gas	49	2.60	5.3	3.73Je	10	7	13.1	70	34
43	S	Oklahoma Nat. Gas	24	1.50	6.3	2.07Je	D11	6	11.6	72	34
113	S	Panhandle East. P. L. ...	44	1.80	4.1	2.75De	10	16	16.0	65	37
13	O	Pennsylvania Gas	21	1.20	5.7	2.26De	40	D	9.3	53	64
166	S	Peoples G. L. & Coke ...	40	2.00	5.0	2.90Je	D12	7	13.8	69	42
34	O	Southern Union Gas	23	1.12	4.9	1.52De	D10	9	15.1	74	35
273	S	United Gas Corp.	31	1.50	4.8	2.42Je	—	7	12.8	62	41
		Averages			5.2%				12.6	66%	
		Retail Distributors									
28	A	Alabama Gas	28	$1.60	5.7%	$2.20Je	D10%	31%	12.7	73%	42%
44	O	Atlanta Gas Light	26	1.60	6.2	2.17Au	D18	11	12.0	74	36
5	O	Berkshire Gas	15	1.00	6.7	1.51My	7	46	9.9	68	35
6	O	Bridgeport Gas	26	1.60(r)	6.2	2.23Je	D16	48**	11.7	72	43

Annual Rev. (Mill.)		(Continued)	10/16/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
4	O	Brockton-Taunton Gas ..	14	.90	6.4	1.29De	32	60	10.8	70	40
59	S	Brooklyn Union Gas	33	2.00	6.1	2.70Je	D7	6	12.2	74	47
1	O	Cascade Nat. Gas	6	—	—	Def.De	—	—	—	—	13
36	O	Central Elec. & Gas	14	.90	6.4	1.58Je	D8	9	8.9	57	17
12	O	Central Indiana Gas	12	.80	6.7	1.04Je	D7	4	11.5	77	65
5	O	Chattanooga Gas	4½	.30	6.7	.37My	D21	14	12.2	81	45
64	O	Gas Service	21	1.36	6.5	1.47Je	D41	0	14.3	95	40
7	O	Hartford Gas	35	2.00	5.7	3.01De	39	5	11.6	66	48
2	O	Haverhill Gas	21	1.32	6.3	1.95Au	10	2	10.8	67	58
31	O	Houston Nat. Gas	37	1.50	4.1	2.26Jy	24	6	16.4	66	22
17	O	Indiana Gas & Water ...	18	1.00(k)	5.6	1.43Au	D13	9	12.6	70	45
45	S	Laclede Gas	13	.80	6.1	1.14Je	D10	7	11.4	70	33
4	O	Michigan Gas Util.	18	1.05	5.8	1.31Je	D20	14	13.7	80	38
5	O	Midsouth Gas	10	Stk(o)	—	.65Ap	4	D	15.4	—	39
42	O	Minneapolis Gas	25	1.40	5.6	2.13Jy	D2	14	11.7	66	38
15	O	Miss. Valley Gas	16	1.12	7.0	1.37Je	D31	5	11.7	82	30
4	O	Mobile Gas Service	20	1.00	5.0	1.11Je	D15	D	18.0	90	33
7	O	New Haven Gas	30	1.80	6.0	2.26De	D6	10	13.3	80	66
12	O	New Jersey Nat. Gas ...	27	1.40(i)	5.2	2.36Ma	12	—	11.4	59	32
80	O	No. Illinois Gas	17	.88	5.2	1.37Jy	D8	—	12.4	64	54
8	O	North Penn Gas	11	1.00	9.0	1.02	23	7	10.8	98	56
224	S	Pacific Lighting	37	2.00	5.4	2.31Je	D22	14	16.0	87	38
19	O	Pioneer Nat. Gas	24	1.40	5.8	2.02De	15	17	11.9	65	39
13	O	Portland Gas & Coke ...	14	.60	4.3	1.28Je	19	8	10.9	39	36
2	O	Portland Gas Lt.	8½	.50	5.9	.73De	D40	—	11.6	70	25
8	A	Providence Gas	9	.56	6.2	.63De	6	15	14.3	89	60
3	A	Rio Grande Valley Gas ..	2½	.15	6.0	.28De	7	9	9.0	54	58
5	O	So. Atlantic Gas	11	.80	7.3	1.05De	17	2	10.5	76	36
11	O	South Jersey Gas	24	1.50	6.3	2.09Au	—	28	11.5	72	55
26	S	United Gas Impr.	35	2.00	5.7	2.48Je	3	1	14.1	81	64
48	S	Wash. Gas Light	33	2.00	6.1	2.54Je	D31	4	13.0	79	43
8	O	Wash. Nat. Gas	13	(1)	—	.38Je	D3	X	—	—	41
7	O	Western Ky. Gas	11	.60	5.5	.72Je	D37	20	15.3	83	38
		Averages			6.0%				12.4	73%	

RECENT FINANCIAL DATA ON TELEPHONE, TRANSIT, AND WATER STOCKS

Annual Rev. (Mill.)			10/16/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
		Communications Companies									
		Bell System									
$5,825	S	Amer. T. & T. (Cons.) ..	169	$9.00	5.3%	$13.00Au*	D3%	2%	13.0	70%	66%
274	A	Bell Tel. of Canada	40	2.00	5.0	2.25De	D3	2	17.8	89	64
43	O	Cin. & Sub. Bell Tel.	77	4.50	5.8	5.58De	2	4	13.8	81	100
209	A	Mountain Sts. T. & T. ...	111	6.60	5.9	9.36My	7	13	11.9	71	73
308	A	New England T. & T. ...	129	8.00	6.2	8.40Je	D7	4	15.4	95	64
792	S	Pacific T. & T.	117	7.00	6.0	9.16Au	D1	4	12.8	76	64
98	O	So. New Eng. Tel.	31	2.00	6.5	2.19De	13	3	14.2	91	69
		Averages			5.8%				14.1	82%	
		Independents									
5	O	Anglo-Canadian Tel.	30	$ .60	2.0%	$3.22Je	7%	54%	9.3	19%	44%
37	O	British Col. Tel.	39	2.00	5.1	2.72Je	D14	12	14.3	74	38
3	O	Calif. Inter. Tel.	11	.70	6.4	.98Je	8	—	11.2	71	24
15	O	Calif. Water & Tel.	19	1.20	6.3	1.50Je	5	10	12.7	80	42
16	O	Central Telephone	18	1.00m	5.6	1.94My	NC	16	9.3	52	29
4	O	Commonwealth Tel.	14	.80	5.7	1.48Je	NC	—	9.5	54	38
4	O	Florida Telephone	19	.90	4.7	1.11My	NC	D	17.1	81	42

Annual Rev. (Mill.)		(Continued)	10/16/57 Price About	Dividend Rate	Approx. Yield	Recent Share Earnings	% Increase	Aver. Incr. In Sh. Earns. 1951-56	Price-Earns. Ratio	Div. Payout	Approx. Common Stock Equity
237	S	General Telephone	39	2.00	5.1	3.25Je	NC	32	12.0	62	35
16	O	Hawaiian Telephone	18	1.00	5.6	1.29Se*	D10	19	13.8	78	42
6	O	Inter-Mountain Tel.	14	.80	5.7	.80De	D16	2	17.5	100	62
21	O	Rochester Tel.	18	1.00	5.6	1.40Je	D2	6	13.0	71	39
3	O	Southeastern Tel.	16	.90	5.6	1.44Ma	4	13	11.1	63	42
9	O	Southwestern St. Tel. ...	19	1.20	6.3	1.67Je	12	4	11.4	67	40
10	O	Tel. Service of Ohio	90	1.20	1.3	6.73Je	10	NA	13.4	18	NA
31	O	United Utilities	20	1.20	6.0	1.63De	D5	5	12.3	74	36
13	O	West Coast Tel.	16	1.00	6.3	1.48Je	14	18	10.8	68	41
252	S	Western Union Tel.	16	1.20	7.5	2.21De	5	15	7.2	54	86
		Averages			5.3%				12.1	67%	
		Transit Companies									
19	O	Baltimore Transit	9	$ .50	5.6%	$ .18De	D86%	X	—	278%	28%
13	O	Cincinnati Transit	4	.30	7.5	.48De	41	10%	8.3	63	46
8	O	Dallas Transit	5	.35	7.0	.90De	58	0	5.6	39	54
33	S	Fifth Ave. Coach Lines ..	22	2.50	11.4	3.47De	21	4	6.3	73	63
244	S	Greyhound Corp.	15	1.00	6.7	1.27De	8	—	11.8	79	52
23	O	Los Angeles Transit	17	1.40	8.2	1.23De	30	11	13.8	114	92
26	S	Nat. City Lines	22	2.00	9.0	2.45De	D10	11	9.0	82	94
13	O	Niagara Frontier Trans. .	8	.60	7.5	.28De	D81	—	—	214	82
69	O	Philadelphia Trans.	6	.60	10.0	1.67De	31	8	3.6	36	38
21	A	Pittsburgh Rys.	5⅜	.50	8.7	.57Je	42	3	10.1	88	90
6	O	Rochester Transit	4½	.40	8.9	.68De	58	18	6.6	59	41
23	O	St. Louis P. S.	10½	1.40	13.3	.69De	1	19	15.2	203	97
15	S	Twin City R. T.	14	1.80	12.9	1.21De	1	D	11.6	149	48
22	O	United Transit	5	.60	12.0	.88De	D15	21	5.7	68	48
		Averages			9.2%				9.0	97%	
		Water Companies									
		Holding Companies									
40	S	American Water Works .	10	$ .60	6.0%	$ .95Je	D10%	6%	10.5	63%	17%
		Operating Companies									
5	O	Bridgeport Hydraulic ...	29	$1.70(r)	5.8%	$2.10De	2%	4%	13.8	81%	58%
13	O	Calif. Water Service	39	2.40	6.2	3.45Au	20	3	11.3	70	32
4	O	Elizabethtown Water ...	38	1.60	4.2	3.28De	16	31	11.6	49	56
9	S	Hackensack Water	38	2.00	5.3	2.87De	D20	2	13.2	70	37
8	O	Indianapolis Water	18	1.00	5.6	1.42De	D12	17	12.7	70	34
5	O	Jamaica Water	32	2.00	6.3	2.90Je#	7	8	11.0	69	25
4	O	New Haven Water	50	3.00	6.0	2.34Je	NC	—	21.4	128	58
2	O	Ohio Water Service	24	1.50T	6.3	2.33Je	D13	7	10.3	64	36
8	O	Phila. & Sub. Water	34	.50(e)	1.5	3.25Je	38	3	10.5	15	28
2	O	Plainfield Un. Water ...	58	3.00	5.2	5.04De	D6	5	11.5	60	39
4	O	San Jose Water	40	2.80(r)	7.0	3.74Au	6	9	10.7	75	45
10	O	Scranton-Springbrook ..	16	.90	5.6	1.51Je	14	8	10.6	60	29
5	O	Southern Calif. Water ..	14	.80	5.7	1.19Je	14	8	11.8	67	34
4	O	W. Va. Water Service ..	17	.68(p)	4.0	1.73Je	1	—	9.8	39	17
		Averages			5.3%				12.2	66%	

A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. (e)—Also paid 5 per cent stock dividend December 1, 1956. (i)—Paid 2 per cent stock dividend November 21, 1956. (j)—Paid 10 per cent stock dividend November 21, 1956. (k)—Paid 3 per cent stock dividend December 19, 1956. (l)—Paid 4 per cent in stock May 3, 1957. (m)—Paid 10 per cent stock dividend January 2, 1957. (o)—Forty per cent stock dividend paid June 14, 1957. (p)—Also one per cent stock dividend quarterly. (q)—Paid 10 cents in January, 1957. (r)—Includes extras. (s)—Estimate for December 31, 1957. (t)—Also paid 2 per cent stock dividend September 30, 1957. (u)—Also will pay 10 per cent stock dividend December 30, 1957. NC—Not comparable. NA—Not available. D—Deficit 1951. *On average shares. **1951 was an abnormally bad year. #—Adjusted to eliminate 37 cents per share of nonrecurring tax savings.

What Others Think

AGA Convention Hears Unity Pleas

THE thirty-ninth annual meeting of the American Gas Association convened in St. Louis last month, with the emphasis on unity and co-operation among all segments of the natural gas industry—production, transmission, distribution, and manufacturing. "An axiom of our business is that our prosperity is in direct proportion to our ability to serve the public interest," Clare H. Zachry, outgoing AGA president and president of the Southern Union Gas Company, told the delegates.

"Today, the gas industry is serving approximately three-fourths of the 170 million people in the United States," he reported. "At the present dramatic rate of growth we can expect to add about one million meters a year, which means that in 1967, ten years from now, we should be providing gas service to four out of every five persons who live in this country."

The natural gas industry has $20 billion in capital investments today, placing it fifth from an investment standpoint with other American industries. "To meet present and anticipated demands," Zachry said, "our industry will need to invest another $5 billion in the next three or four years. By 1961 we can expect to have some $25 billion at work, which will represent a full 20 per cent increase over present investments.

"Optimistically, we should be able to double our sales in the next ten years and this should result in an industry annual net income of better than $1 billion by 1967."

One of the outstanding developments during the past year has been in the field of gas industry research, Zachry reported, including important contributions toward the improvement of gas appliances and equipment. Five manufacturers are coming to market, he said, with radically new gas incinerators which are smokeless and odorless. "Not only does this new incinerator provide an important and necessary answer to smog control and air pollution," he said, "but it can radically affect the whole problem of waste disposal in a nation that is taking to the suburbs for more comfortable living conditions."

THE gas industry is also taking aim on the burgeoning air-conditioning market now largely dominated by the electric utilities. "In this field alone," Zachry said, "may lie our industry's greatest opportunity. By the end of this year, we will have five or six new prototypes ready for demonstration and early production. However, there is no need to wait. Present equipment is outstanding and puts the gas industry in a position to compete in the booming air-conditioning market."

Zachry said the gas industry today is supplying 26 per cent of the total energy requirements of the United States. The President's Materials Commission estimates that in 1975 the gas industry will be producing 20 trillion cubic feet, or 27 per cent of the total energy requirements at that time. This 20 trillion feet will be almost double the gas production last year.

"Certainly the gas industry has no reason to look to its future market potentials with anything less than optimism," Zachry concluded.

PARALLELS and differences between the gas and insurance fields were outlined by James F. Oates, Jr., president of the Equitable Life Assurance Society of the United States and former chairman of the board of Peoples Gas Light & Coke Company. "The gas industry is engaged in providing needed services to the public," he explained. "Likewise, the life insurance business has the same objective. Both industries are faced with governmental regulation and both are sensitive to monetary fiscal and tax policies. Both industries have responsibilities and obligations to a large number of our population who make up the free enterprise system of the U. S. A."

But one particular aspect of the life insurance business does not confront the gas industry. The life insurance industry is faced with the obligation of finding proper investments to guarantee the dollars to be paid on policyholders' contracts. "Evidently the investment officers and their staffs believe in the gas industry," Oates commented. Since 1945 through December 31, 1956, the actual increase in dollars invested in the gas industry by six life insurance companies is as follows: 1945—pipeline company debt securities $55 million; 1956—$1,470,000,000. This increase is about 27 times the 1945 total. The gas distribution company's debt securities: 1945—$187 million; 1956—$591 million (better than three times the 1945 total).

Oates reported that the 15 largest life insurance companies as of December 31, 1956, owned $1,902,876,000 of the pipeline debt securities and $915 million of the gas distribution debt securities—a total of $2,817,888,000. These 15 life insurance companies represent 72.3 per cent of the total assets of all life insurance companies. The gas company investment comprises 4.05 per cent of the admitted assets of these companies. Oates said:

> The gas industry can take pride in such a vote of confidence by the life insurance industry. For the insurance industry's record of meeting the claims of its policy owners is impressive affirmation of its investment judgment. The insurance industry's investment analysis is as objective as can be. The fact that a considerable portion of our assets is invested in gas companies indicates more than my words could ever do how well your industry measures up to the governing principles of American economic life.

A NOTE of concern over increasing gas-electric competition for fuel business was heard in several of the featured addresses to the convention. Marvin Chandler, president of Northern Illinois Gas Company, saw sales as the industry's biggest problem. "A comprehensive national survey of new homes last year showed that we are not maintaining our position in the new home market," he said. For example, in the cooking field, when the home owner selected his own range, gas was favored in the more expensive homes but not in the less expensive homes. Chandler said that while older people who are the predominant buyers of the more

expensive homes have ingrained gas-cooking habits, younger people are apparently lured by something which appears to them to be more modern. He explained:

> The inroads made in the built-in market, where gas equipment is in the minority, are shocking. It is already apparent that we have a big selling job to do. And it is going to get tougher, not easier. One reason for this is that our opposition's merchandise will be improved in the future as it has been in the past. Their expenditures looking toward new and better appliances are tremendous. The largest electrical equipment manufacturer alone spends over $250 million per year on research and development, compared to the $2 million spent on research under our PAR program. Our kitchen and laundry appliances can beat what they now have on the market, but are we preparing to meet what they will have twenty, ten, or even two years hence? As yet, we have only scratched the surface in our efforts to develop domestic air-conditioning equipment, and we are plagued with a very serious problem in the field of domestic refrigeration. We must set our sights high on appliance improvement. We cannot let ourselves drift into becoming a house heat utility, or we may even lose that market.

J. C. HAMILTON, president of Arkansas Louisiana Gas Company, also spoke of the industry's competitive problem. The severe competition now facing the industry, he said, is going to get worse. Noting the fact that electric utilities already are cutting into the gas industry's cooking and water-heating business, Hamilton said that through development and sale of the electric heat pump, the electric utilities are in a position to take a large share of the summer cooling business and along with it the winter heating unless steps are taken to prevent it. Hamilton said:

> Gas air conditioning leads to the solution of both of these problems. After the installation of a gas-operated central heating and summer cooling unit, the householder is much less likely to install an electric stove or an electric water heater. We must not relax our promotion of the new cooking appliances, however, for any inroad by any type of electric appliance will encourage inroads into other fields. . . .

DISAPPOINTMENT was expressed over the failure of Congress to relieve gas producers from the burden of federal regulation. J. J. Hedrick, president of the Independent Natural Gas Association of America and Peoples Gas Light & Coke Company, said he hoped Congress would take another look at the problem next year.

"I sincerely believe that such legislation should become law for the good of the industry and consumers," Hedrick told the delegates. He continued:

> As the members of Congress work on this bill, they, as we of the industry did, will more fully appreciate the magnitude of the problem we all are working on. Just as we who have worked together have been impressed, they cannot avoid being impressed by the fact that there is no solution to the problem in the sole interest of the producer, or the pipeline, or the distributor, or the consumer, and that the solution lies in the common interest. That solution—embodied in the proposed legislation—is based on the simple economic facts that supply is adequate when suppliers are provided incentive and that price is reasonable when supply and demand are in balance. To assure those who originally may have felt that consumer interest

may lie only in the area of price, the bill provides for continued regulatory price control over the producer's sales to the pipelines.

THE AGA elected Robert W. Otto, chairman of the board, Laclede Gas Company, to head the organization next year. Other officers elected by the AGA included: A. W. Conover, president, Equitable Gas Company, Pittsburgh, first vice president; J. Theodore Wolfe, president, Baltimore Gas & Electric Company, second vice president; and Vincent T. Miles, treasurer, Long Island Lighting Company, Mineola, New York, treasurer.

REA Nuclear Power Conference

THE second nuclear power conference sponsored by the Rural Electrification Administration met in Washington, D. C., early last month. REA Administrator David A. Hamil was on hand to discuss his agency's policy with respect to nuclear reactor power plants.

"The riddle facing everyone today who is interested in development of nuclear power is the final cost and reliability of that power," Hamil told the conference. "The price tags have been moving up, but actual experience could bring them down to reason." He added:

> REA's policy in regard to nuclear energy for rural power generation is geared to the realities of science and economics. It is an open-door policy. When the economic feasibility of atomic fuels for the production of electric power is proven REA will aid its borrowers in gaining early access to its economic advantages.

REA established a working relationship with the Atomic Energy Commission as early as March, 1954, Hamil noted. "We were brought together by a mutual interest in the development of nuclear demonstration plants suitable for small, non-integrated, or rural utility systems," he said. "Under this arrangement, AEC has kept us abreast of developments in this field. We, in turn, have supplied the commission with information on the characteristics of rural systems, the needs and aims of REA borrowers and related data, and have encouraged borrowers to participate in the program of research and development."

Twenty-two groups in the REA program have obtained access permits for information from AEC, Hamil revealed. Three REA borrowers are to be given the opportunity to engage in the reactor demonstration program of the AEC. These borrowers are the Chugach Electric Association at Anchorage, Alaska; the Wolverine Electric Co-operative, at Big Rapids, Michigan; and the Rural Co-operative Power Association at Elk River, Minnesota. As for the last two projects, AEC has encountered difficulty in finding contractors willing to build the nuclear plants under a ceiling price agreement. Both the Wolverine and Elk River projects have been stymied by the unwillingness of AEC to contract for the plants on a cost basis. These developments were subsequent to Hamil's address to the power conference.

THE co-operation between REA and AEC in contract negotiations for nuclear power plants is in accordance with the statutory intent of Congress, Hamil said. "At the same time," he warned, "we need to make certain that our borrowers do not unknowingly commit themselves to

"THERE GOES THE BIG BRAIN ON MICROWAVE AROUND HERE."

obtain, or use, REA funds for purposes not authorized in the Rural Electrification Act."

The Rural Electrification Act requires that REA loans be self-liquidating and repaid, with interest, within the time agreed, Hamil pointed out. In applying this principle, REA must consider not only the tangible and intangible assets of a prospective borrower, such as revenues, management, and reputation, but also the proven practicability of the facilities to be operated. The act provides broad authority for generation loans, he continued. "We in REA look upon nuclear power as another fuel. We hope that we will see the day when electricity produced from nuclear fuels will result in lower cost for rural people. We do not know at the present time exactly what it costs to build an atomic plant or what it costs to produce the power in such plants."

In 1956 the distribution systems financed by REA distributed more than 17 billion kilowatt-hours of electricity. Over one-fifth of that amount, or nearly 3.5 billion kilowatt-hours, was produced in plants owned by REA borrowers. Many of these have high power costs because of heavy fuel transportation charges. Most

of them serve sparsely settled areas where long transmission and distribution lines add to the cost of providing electric power to the consumer. Hamil said:

> Thus these rural electric systems have a definite and economic interest in the potentials of nuclear electric power.
>
> As their banker, REA also has an economic interest in nuclear progress. The systems have been built with loans from the government. Anything which reduces the cost of power to our borrowers will add to the security of the loans.
>
> For these reasons, REA feels that it has a responsibility to keep abreast of developments in nuclear energy power production. By so doing it will be in a position to assist its borrowers in taking full advantage of every practicable method of generating electric energy.

CHARLES U. SAMENOW, REA's legislative consultant, told the conference that the 1957 amendments to the Atomic Energy Act do not represent a final settlement of the respective rôles of the federal government and private enterprise in nuclear power reactor development. "This controversial subject will undoubtedly continue to occupy the attention of the Congress at least until the art of nuclear power generation has developed techniques and equipment which produce firm and dependable energy at costs comparable with energy produced by methods now regarded as conventional."

THORNY problems of patent licensing and the ownership and disposition of special nuclear materials, to mention only a few, remain to be settled, Samenow pointed out. In the insurance field, the 1957 legislation furnished an interim solution which must be re-examined before the 10-year period of government indemnification runs out. Here, too, Samenow said, the problem may be solved by development of the art to minimize if not eliminate the special hazards which require government participation.

State legislation enacted in the atomic energy field is thus far largely exploratory, Samenow reported. "After the studies envisioned in most of the enacted bills are completed," he said, "there will remain to be determined the respective rôle of the federal and state governments in the regulation and control of the new art and the co-ordination of these rôles. Further amendment of the 1954 act is indicated to clear the way for effective administration by the states of their responsibilities."

Law Departments in Utility Organizations

LEGAL services for electric utility companies are generally provided through either of two different kinds of arrangements; namely,

> 1. Through legal "departments" staffed by company legal personnel, supplemented by outside counsel as needed.
>
> 2. Through outside legal firms entirely, one of which in each case usually operates as the company legal "department" on a contractual basis.

Examination of the organization charts of 87 electric utility companies indicates that a little more than half of them utilize the first kind of arrangement. Table 1 gives the findings in this respect.[1] It is

[1] The presumption is that all of the other companies depend on outside counsel entirely, although a positive determination could be made in the cases of only seven companies. In the other cases, it is assumed that if there were company legal "departments" staffed by company personnel in existence, the organization charts would have contained reference to them.

to be noted that the large companies provide their own legal services to a relatively greater extent than do the medium- and small-size companies.

This analysis is principally concerned with the organization for legal service management in those companies having their own legal "departments." The basic data with which we are here concerned, therefore, cover 46 companies. They are probably a fair representation of all electric utility companies having inside legal "departments."

The subjects with which this survey deals, with respect to companies maintaining their own legal "departments," relate to the titles of the legal service executives, the provisions made for their supervision, the organization levels of the positions they occupy, and the extent to which other company functions are grouped with the legal service function under the jurisdiction of the legal service executives.

TABLE 2, page 764, gives the titles of the legal service executives in 42 of the 46 companies having their own legal "departments." The titles of the department heads are not shown on the organization charts of the other four companies.

IN about two-fifths of the 42 companies, the legal service executives have the rank of vice president. The next most popular title is "general counsel," which is employed in 13 of the 42 companies. Large companies and small companies use the "vice president" title to a relatively greater extent than do the medium-size companies.

In the case of the small companies, however, the legal service executives are placed in supervision over other functions in addition to the legal service activities.

Legal service executives in their capacities of giving legal advice and counsel and of protecting their companies' legal interests are not usually "supervised" in the ordinary sense of the word. However, they must observe certain company working rules and practices, be paid one figure or another, be given work assignments, be

TABLE 1

EXTENT TO WHICH 87 ELECTRIC UTILITY COMPANIES ARE ORGANIZED TO PROVIDE THEIR OWN LEGAL SERVICES, 1956

Explanation	*Number of Companies†*			
	Total	*Large*	*Medium*	*Small*
Companies having organization charts showing their own legal "departments" staffed by company personnel‡	46	11	29	6
Companies having organization charts showing reliance on outside firms for regular legal services	7	2	4	1
Companies having organization charts making no mention of legal counsel (here the presumption being that these companies rely on outside firms or obtain legal services from utility service companies)	34	1	26	7
All Cases	87	14	59	14

† Companies having over $100 million annual revenues classified as "large"; those having $25-$100 million annual revenues classified as "medium"; and those having under $25 million annual revenues classified as "small."

‡ It is assumed that the existence of legal "departments" staffed by company personnel in these 46 companies does not mean that they do not retain outside legal counsel whenever the need for such service arises.

TABLE 2

TITLES OF LEGAL SERVICE EXECUTIVES IN 42 ELECTRIC UTILITY COMPANIES, 1956

Titles	*Number of Companies†* Total	Large	Medium	Small
Vice President				
Vice President	1	—	1	—
Vice President and General Counsel	9	6	3	—
Vice President and Counsel	1	—	1	—
Vice President in Charge of Law	1	1	—	—
Vice President—Legal	1	—	—	1
Vice President—Attorney	1	—	1	—
Vice President and General Solicitor	1	—	1	—
Vice President and Secretary—Legal	1	—	1	—
Vice President, Secretary, and Counselor	1	—	—	1
Vice President, Legal, Public Relations, and Personnel	1	—	—	1
Subtotal	18	7	8	3
Assistant to President				
Assistant to President	1	—	1	—
Assistant to President and General Counsel	1	—	1	—
Subtotal	2	—	2	—
General Counsel				
General Counsel	12	4	8	—
General Counsel and Assistant Secretary	1	—	—	1
Subtotal	13	4	8	1
Counsel	4	—	4	—
Miscellaneous				
Executive Counsel	1	—	1	—
Staff Counsel	1	—	1	—
General Attorney	1	—	1	—
General Claims Attorney	1	—	—	1
Claim Attorney	1	—	1	—
Subtotal	5	—	4	1
Total‡	42	11	26	5

† Companies having over $100 million annual revenues classified as "large"; those having $25-$100 million annual revenues classified as "medium"; and those having under $25 million annual revenues classified as "small."

‡ Four other companies have legal "departments" but their organization charts do not show the titles of the department heads.

TABLE 3

TITLES OF SUPERVISORY EXECUTIVES TO WHOM LEGAL SERVICE EXECUTIVES ARE RESPONSIBLE IN 46 ELECTRIC UTILITY COMPANIES, 1956

Titles	*Number of Companies†* Total	Large	Medium	Small
Chief Executive	43	10	27	6
Executive Vice President	2	1	1	—
Director of Personnel	1	—	1	—
Total	46	11	29	6

† Companies having over $100 million annual revenues classified as "large"; those having $25-$100 million annual revenues classified as "medium"; and those having under $25 million annual revenues classified as "small."

TABLE 4

FUNCTIONS GROUPED WITH LEGAL SERVICE FUNCTION UNDER THE LEGAL SERVICE EXECUTIVE IN 15 ELECTRIC UTILITY COMPANIES, 1956

Functions Grouped with Legal Service Function	*Number of Companies†*			
	Total	*Large*	*Medium*	*Small*
Claims	5	—	4	1
Claims and Safety	1	1	—	—
Claims, Real Estate, and Real Estate Taxes	1	1	—	—
Claims, Public Relations, and Real Estate	1	1	—	—
Claims, Legislative Relations, State Taxes, Insurance, and Rates	1	—	1	—
Corporate Secretary	1	—	1	—
Corporate Secretary and Real Estate	1	—	1	—
Corporate Secretary and Safety	1	—	—	1
Public and Employee Relations	1	—	—	1
Municipal Relations	1	—	1	—
Real Estate	1	—	1	—
Total‡	15	3	9	3

† Companies having over $100 million annual revenues classified as "large"; those having $25-$100 million annual revenues classified as "medium"; and those having under $25 million annual revenues classified as "small."

‡ The organization charts of the other 31 companies carrying reference to the legal service function do not indicate any grouping of other functions with the legal service function in these companies.

given leaves from work, and otherwise be "supervised" in the more limited sense of the word.

Table 3, page 764, indicates that in practically all cases (43 of the 46 companies) the legal service executives are "supervised" by the company chief executives, rather than by any other subordinate executives. In no case is there more than one intermediate executive interposed in the line of authority between the chief executive and the legal service executive.

THE high place of the legal service executives in their company organizations no doubt reflects the operation of at least three important factors or influences; namely,

1. The great importance of legal matters in the management and operation of a company.

2. The need for frequent and direct communication between the chief executive and the legal counsel.

3. The universal character of the legal service function within the company, pointing as it does toward placement of the function in a neutral spot in the organization, the only neutral spot in this case being at the hand of the chief executive.

IN a few companies, 15 of the 46, as Table 4 shows, other company functions are grouped with the legal function for supervision by the legal service executive. The claims function is the one most commonly to be found along with the legal service function in these few groups. The legal service function stands apart from any such grouping in the large majority of cases.

In general, the findings bear evidence of the high level recognition that is given to the legal service function in the management hierarchies of most electric utilities.

—GEORGE W. PEAK,
Director of organization planning, Public Service Company of Indiana, Inc.

Enlarging Employee Effectiveness

"ENLARGING Employee Effectiveness" was the theme of the tenth annual round-table conference of Edison Electric Institute's industrial relations committee, held at the Drake Hotel in Chicago in late September. Four prominent electric utility industrial relations executives "keynoted" the sessions.

Frank J. Gleeson, director of personnel, Northern States Power Company, spoke on utilization of the work force. Gleeson said that the dramatic changes being made from day to day by industrial management in the introduction of new tools, equipment, and methods present an opportunity heretofore undreamed of in the already fertile field of industrial relations.

"The industrial relations man must keep pace with these changes," Gleeson said. "He must re-evaluate the effectiveness of his own tools, equipment, and methods from the standpoint of their effectiveness to achieve the gains his company looks forward to as the result of its investment in these scientific developments. The industrial relations man will have to take a leaf from the book of industrial management by the introduction of his own new tools, new equipment, and new methods.

Donald A. Bartlett, director of industrial relations, Western Massachusetts Electric Company, speaking on training and development, told the conference that the quality of work, efficiency of operation, safety records, and meeting production schedules are some of the areas where the results of training can be measured.

Bartlett pointed out that some people are not trainable, especially in management skills. Therefore, he said, a means must be devised to determine those who will react favorably to development. While training on the job is probably the most popular technique used for nonsupervisory employees, Bartlett suggested that this should possibly be supplemented by classroom demonstrations and discussions.

THE problem of communicating with employees was discussed by George W. Fewkes, manager of personnel, Philadelphia Electric Company. "Even when an effective communications program has been formulated on sound principles and launched with sincere, legitimate, and well-publicized objectives, there is a continuing need for critical self-analysis to remedy weaknesses, in which self-analysis we can derive considerable aid from the experience of others," Fewkes stated.

Some questions, said Fewkes, which need to be resolved are: Does a good communications program *really* change employee attitudes? Is two-way communications a myth or can channels of upward communications be kept open? If collective bargaining results in competition for employee loyalty, can a communications program instill an attitude of company-mindedness?

On the development of morale and loyalty, C. H. Campbell, personnel director, Pacific Power & Light Company, told the conference that, although the realization comes late sometimes, it is true that you can buy with material rewards a man's energy or so many hours of his time on the job every day, but you cannot buy his interest or his loyalty. These must be earned. Morale and loyalty, he said, are the returns to management for effort on its part to deserve that kind of human response.

What management can do to improve the supervisor's effectiveness in dealing with people is the key to enlarging employee effectiveness.

The March of Events

Army's Hydro Plants Add Capacity

ARMY hydroelectric power plants now have more than 5 million kilowatts' capacity, the Army Corps of Engineers has announced.

The addition of a 78,000-kilowatt generating unit at The Dalles dam on the Columbia river in Oregon and Washington recently brought the total electric power-generating capacity of the Army civil works projects to 5,024,000 kilowatts, said Major General E. C. Itschner, Army Chief of Engineers.

The new unit at The Dalles is the first of 14 main 78,000-kilowatt units presently under construction. The initial total installed capacity of The Dalles project will be 1,119,000 kilowatts.

There are now 30 civil works projects of the Corps of Engineers producing hydroelectric power.

District of Columbia

Takes Commission Post

HAROLD A. KERTZ, describing himself as a "firm believer in private operation of utilities," last month stepped into his new post as a member of the District of Columbia Public Utilities Commission.

His appointment, a recess one subject to confirmation when the Senate returns next year, brings the three-member commission to full strength. He succeeded John Lewis Smith, Jr., now a municipal court judge.

Georgia

Power Pacts Signed

A CONTRACT between the federal government and Georgia Power Company for the sale and wheeling of power produced by the Allatoona, Buford, and Clark Hill dams was signed in Atlanta recently.

The arrangement between the Southeastern Power Administration and the power company in effect expands the Clark Hill contracts executed in May, 1956.

It also permits integration of operations of the three projects and the Jim Woodruff dam in Florida, according to Fred G. Aandahl, Assistant Secretary of Interior. Aandahl said the new contract "solves the problem of marketing power in Georgia after years of differences."

J. J. McDonough, power company

president, pointed out that the contract "is intended to include the output of dams which may be built in the future. The new contract, he added, "will substantially increase the amount of power available to preference customers."

Illinois

Groups Ask Voice in Rate Case

REPRESENTATIVES of 50 municipalities and industrial groups appeared on October 15th before the state commerce commission as hearings opened on the Commonwealth Edison Company's request for a $25 million annual rate increase.

Charles Bane, company attorney, told Hearing Examiners William Helander and Harold Woodward that the utility has experienced an unprecedented growth since 1946, having added 400,000 customers. Residential and industrial needs for electricity continue to grow, Bane said, and the company will have to borrow $360 million through 1961 to finance expansion.

The state commission must decide the case by next June or the higher rates automatically go into effect.

State Utility Section Program

THE following is an outline of a program sponsored by the Section on Public Utilities Law of the Illinois State Bar Association, which is scheduled to be held at 2 P.M., Friday, November 8th, at the Sherman Hotel in Chicago, Illinois, in conjunction with the midyear meeting of the Illinois State Bar Association:

A survey of recent technological and economic developments in the production, distribution, and consumption of nuclear, electric, and natural gas power and an analysis of their legal implications was slated to be a program feature. The following speakers were listed: introduction —George C. Perrine, chairman, Illinois Commerce Commission; atomic and electric power developments—Raymond D. Maxson, senior vice president, Commonwealth Edison Company, Chicago; film strips—"Dresden Atomic Power Plant," Courtesy of Commonwealth Edison Company.

William L. Crowley, vice president and comptroller, Northern Illinois Gas Company, Aurora, was scheduled to speak on gas and gas pipeline developments. Film strips: "Natural Gas Power for Today," courtesy of Northern Illinois Gas Company.

A panel discussion on regulatory and legal implications was arranged with the following announced participants: Charles Bane, Isham, Lincoln & Beale, Chicago; W. Philo Gilbert, Wilson & McIlvaine, Chicago; Harry R. Begley, special assistant attorney general, Illinois Commerce Commission, Chicago.

Kansas

Court Settles Contract Dispute

AN opinion handed down by the state supreme court last month held that the state corporation commission cannot abrogate contracts for the purchase of gas from a public utility unless it makes an express finding they are unreasonable and that they adversely affect the welfare of the public.

The high state court affirmed a decision of the Ellis county district court setting aside a portion of a 1954 state corporation commission order on the grounds it had the effect of voiding contracts for the

purchase of gas by Central Kansas Power Company, Abilene, from Kansas-Nebraska Natural Gas Company, Phillipsburg. The commission order gave Kansas-Nebraska permission to file new rate schedules designed to produce $462,500 a year in additional revenue. Kansas-Nebraska, the commission ruled after a series of hearings, needed added revenue from its Kansas operations. The utility originally asked for an additional $442,792 annually.

Oregon

State Power Agency Urged

U. S. SENATOR Richard L. Neuberger, in an address before the Oregon Building Congress last month, urged establishment of an Oregon state power commission.

"As one who believes cheap power is our best hope of new payrolls to take up the slack of lost lumber employment," said the Senator, "I believe no responsibility facing the special session of the legislature is nearly so great as making Oregon ready to establish a state power commission at an early date."

A bill such as Neuberger espouses passed the state house of representatives in the 1957 session of the legislature, and failed on the last day in the senate because it got only 16 votes for suspension of the rules, which was necessary to place it on the calendar.

Neuberger is the sponsor of a proposed amendment to the Bonneville Act which would allow higher priority for industrial uses of power. The Senator said he has a legal opinion from the Library of Congress that an Oregon state power agency could be certified as a preference customer of Columbia river hydroelectric energy.

Rhode Island

Phone Rate Boost Authorized

THE state public utility administrator last month granted the New England Telephone & Telegraph Company an increase in Rhode Island rates amounting to about half of the $2,925,000 annual revenue boost the company asked a year ago.

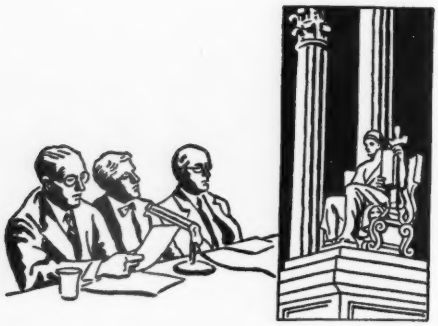
Administrator Thomas A. Kennelly dismissed the proposed rates filed by the company November 26, 1956, and ordered the utility to file within fifteen days a revised schedule of rates that will increase gross intrastate revenue by $1.4 million annually. This would give the utility a return of 6.25 per cent on its intrastate rate base instead of the 7.25 to 7.75 per cent it had asked. In the last previous Rhode Island rate case in 1953, Kennelly fixed the fair rate of return at 6.23 per cent. The company actually earned 5.17 per cent in the first seven months of 1957, it was noted.

West Virginia

Rules on Municipal Taxes

THE state public service commission recently granted permission to the Chesapeake & Potomac Telephone Company to add to customers' bills the cost of taxes or fees collected from the company by the municipality or county in which the customers receive service.

The commission, in an order made public on October 11th, approved the proposal, as contained in a tariff revision filed by the company last April 25th.



Progress of Regulation

Trends and Topics

Market Value of Securities for Rate-making Valuation

JUST before the turn of the century, the Supreme Court of the United States in the famous Smyth *v.* Ames case prescribed security value and earning capacity under statutory rates as elements to be considered by regulatory authorities in determining the fair value of utility property. These elements were to be given "such weight as may be just and right in each case." The fundamental rule in this decision, however, while not overruled, was rendered innocuous by the Hope decision in 1944 (51 PUR NS 193), wherein the court said that "under the statutory standard of 'just and reasonable,' it is the result reached, not the method employed, that is controlling." The Hope decision, then, leaves the commissions free to consider security value and earning capacity in arriving at fair value, if they regard them as proper elements.

Weight to Be Given Market Value

Several years ago the Maryland commission had a rate proceeding before it involving a telephone company whose stock was wholly owned by a parent corporation. Referring to the Smyth *v.* Ames pronouncement, the commission indicated that consideration of stock value was of little use in this case since there was no established market value (84 PUR NS 175). It was also noted that no real help in a proceeding of this kind could come from a consideration of the particular rates in question and that, as a standard for valuing property, they must be disregarded. As the Supreme Court said, the commission commented, the several elements enumerated by it are all matters for consideration and are to be given such weight as may be just and right in each case.

Market value of securities, although not a primary measure of value, said the Pennsylvania superior court, is a relevant factor in the determination of fair value under Pennsylvania public utility law (4 PUR3d 185). The court observed that the weight to be given to this factor, as to any other measure of value, necessarily varies according to the circumstances. In such matters the commission has the duty to exercise its sound discretion on the facts before it.

In an earlier case the same court held that market value of securities of a reorganized transit company was not to be considered by the commission (55 PUR NS 473). The securities had been on the market for less than two years at that time and there was not, therefore, a reasonable opportunity for the issues to reflect an appraisal of the value of the utility.

The city of Little Rock argued before the Arkansas commission that the rate base of a transit company should be the cost of the common stock in the most recent sale by the company (93 PUR NS 146). The commission refused to adopt the theory and thereby establish a precedent of accepting market value of securities as a proper measure of a rate base. There must be some uniform standard basis for determining a rate base, the commission commented.

The Georgia commission indicated that little weight could be given to the value of stocks and bonds in an electric rate case where the company's securities covered all of its holdings, including water plants and ice plants as well as a packing plant (31 PUR NS 129). The Nebraska commission held that this element, while useful for comparative purposes, could not be accorded controlling weight in a utility valuation (34 PUR NS 257). This was especially true in the case then before the commission, since the parties appeared to agree that the method of appraisal should be reproduction new less depreciation. Obviously the mere assignment of an arbitrary value to no-par stock is not a sound basis for the determination of the value of properties against which such stock is issued, the Utah commission stated, even though it may be a sufficient basis for a bookkeeping entry to record the purchase of the properties (33 PUR NS 3).

Market Value and Circular Reasoning

To give substantial weight to market value of stock in determining the fair value of utility property would seem to involve an element of circular reasoning. The market value of stock depends essentially upon a company's earning power, while the value of utility property is a determinant of allowable revenues. Thus earnings would determine value and value would determine earnings.

How far is this measure of valuation removed from the determination of property value for rate-making purposes by outright capitalization of prospective earnings? The commissions do not, of course, permit the process to go this far.

Consistent with the holdings of the other regulatory bodies is the New York commission's view of the matter (5 PUR3d 33). In discussing the nature of value, the commission observed that in a competitive enterprise free from regulation the value of commercial property is usually measured by its capitalized prospective earnings. But in the utility field there is no free competition. The utility obtains a monopoly in varying respects in return for freedom from competition, and it relinquishes its right to charges beyond those which are fair and reasonable. In determining the value of utility plant, said the commission, the standards of competition cannot be used because they do not exist.

Review of Current Cases

Fair Present Value Reigns in Iowa

A FAIR present value rate base is indispensable to the regulation of utility rates under the due process requirement, the Iowa supreme court ruled in upholding a lower court decision (9 PUR3d 494) which declared confiscatory an ordinance of the city of Fort Dodge prescribing gas rates for Iowa-Illinois Gas & Electric Company. The rates were based on original cost only. The supreme court held that the company had a right to have reproduction cost considered in the rate base determination. Reproduction cost was ascertained in the trial court proceeding by the use of an inventory of property drawn from company records and repriced at current levels.

The lower court had enjoined enforcement of the ordinance and retained jurisdiction during the interim period in which the company applied its own rates under bond, pending final determination of the case. Both the city and the company appealed.

"End Result" Theory Rejected

The city council relied on the "end result" theory as announced by the United States Supreme Court in the Hope decision (320 US 591, 51 PUR NS 193). The council claimed that evidence of original cost was a sufficient basis for the rates it fixed and rejected reproduction cost as evidence of fair value. It argued in effect the rule in Smyth *v.* Ames (1898) 169 US 466, 42 L ed 819, in which the Supreme Court enunciated the fair value rule, and upon which Iowa cases are based, was overruled by the Hope case, so that the fair present value rate base was in some way abolished in Iowa.

The most that can be attributed to the Hope case, said the Iowa supreme court, is that the federal Constitution does not require any specific method of determining a fair rate base and that any reasonable method may be used, including original cost and reconstruction cost, if the end result does not disclose an unfair or confiscatory rate. The court disagreed with the statement in the Hope case that even a "meager return" on a fair value rate base would satisfy the due process requirement if the authorized rates enabled the company to operate successfully, maintain its financial integrity, attract capital, and compensate its investors. Nor can the Hope case be taken as an authority that the finding of a rate base and "conventions of rate making" can be omitted in a rate proceeding, said the Iowa supreme court.

Expediency versus Fair Treatment

The court expressed the view that the arguments against fair value are all arguments of expediency and not of justice or fundamental fair treatment. It recognized the problem of proof involved in estimates of reproduction cost used in fair value determinations but declared that they satisfy practical requirements. The original cost of property purchased long ago is obviously not a sound basis for judgment of present value, said the court, and is obviously far more out of line than any estimate of reproduction cost or of trended original cost. They are more definite measures than the vague "end result." "Furthermore, with the complete bookkeeping records now kept, it is not too difficult or expensive to apply trended percentages to original cost and thereby obtain a trended original cost, which will

serve as a very accurate guide to the general effects of inflation . . ."

The court observed that the rate-making process must function in a world of change and constantly adapt itself to economic changes. A utility must have an adequate return in terms of the present buying power of money because that is the only kind of money that is in current use.

In a state such as Iowa where no commission with a technical staff is maintained to regulate urban utilities, the court declared, a fair value rate base is the only fair measuring tool by which the court can determine whether or not a rate is confiscatory. To adopt the "end result" as urged by the city would result in chaos, considering that the municipality, as a rate-making authority, is not required to make findings or keep a record of its hearings.

Fair rates should in some part depend upon what investors might reasonably expect from their investment, the court asserted. But stockholders would not know what to expect until the value of the property involved is ascertained. This, then, is a real objection to the "end result" test and weighs heavily in its rejection in Iowa. The court stated: "Some standard certainly is necessary. We are convinced the fair value doctrine is uncertain enough without turning over to some group of individuals the task of furnishing a new and different yardstick on each occasion a test is required."

Weighting of Fair Value Factors

Fair value should take into consideration, among other possible factors, original cost and reproduction cost, the factor of current value reflecting increased costs. Original cost alone is too rigid a basis of value for rate making since it does not reflect economic change.

How much weight should be given to original cost and to reproduction cost depends upon the direction of prices. In a period of constant dollar values, no serious objection can be made to a valuation based on original cost, the court pointed out, for then replacement cost would be substantially the same as original cost. In a period of rising prices, the owners of equity are hurt by original cost. On the other hand, the ratepayer may suffer in times of declining prices.

The court noted that since the company's last property valuation in 1939, the dollar had lost one-half of its purchasing power. Said the court: "It is truly as though we were now using a different currency. Practically all segments of the country's economy are using a reduced unit of exchange. Should utility companies be treated differently? We think not."

The court went on to agree with the company that it would be unfair to require it to put up its property in terms of the old high unit while receiving the cheap new unit in revenues.

Said the Iowa Supreme court: "The remaining life undepreciated must be given a 1954 [test year] value. If this were not so, the result would be to practically give the consumers all the benefits of ownership with none of its disadvantages. We are sure that is not the intent of the law. Ostensible gains and losses resulting from price fluctuations should go with ownership." Adherence to original cost alone neither gives the stockholder a realistic income in a high price period nor the ratepayer a realistic rate in low price times, the court declared. It was also pointed out that valuation at the level of original cost in times of rising prices is objectionable because it discourages the replacement of inefficient or obsolescent properties.

The high court held that the trial court was wrong in giving original cost and reproduction cost equal weight in determining the fair present value of the company's properties.

The weight of reproduction cost was raised to 70 per cent.

Depreciation—Right of Restoration

The right of the company to an allowance for depreciation, the court ruled, is the right of restoration based on fair present value. It would do the utility no good to set its rates on the fair present value base if the base were then ignored and the value represented in the base annually eroded away by an inadequate annual depreciation allowance. A 2 per cent figure formerly applied on the original investment was allowed on the present property value.

Six Per Cent Return Allowed

The court ruled that the 6 per cent rate of return fixed by the trial court on the fair present value rate base avoided confiscation. While it intimated that some lesser percentage might have been sufficient for that purpose, it indicated emphatically that the return allowed by the city council (3.93 per cent based on fair present value) was confiscatory.

The city contended that the court, in determining the refund to be made by the company, acted in a legislative capacity and established the rate for gas in Fort Dodge. The supreme court held that the trial court did not err in determining a necessary return to avoid confiscation during the period of operation under the court's retained jurisdiction. *Iowa-Illinois Gas & E. Co. v. City of Fort Dodge et al. September 17, 1957.*

Inflationary Factors Recognized by Allowing Higher Rate of Return on Investment Cost Rate Base

THE New York commission, upon review of a rate increase proposal by the New York Telephone Company following remand of the case, allowed a return of 6½ per cent upon an investment cost rate base. The commission first decided this case in Re New York Teleph. Co. (1954) 5 PUR3d 33. The appellate division of the state supreme court reversed the commission order because the commission had excluded evidence of reproduction cost (8 PUR3d 229), and the court decision was upheld by the New York court of appeals (12 PUR3d 399).

Payments to Affiliated Companies

The commission did not regard as improper the amount paid to American Telephone and Telegraph Company in the amount of one per cent of gross revenue, other than miscellaneous, for services performed. Assistance in financing, said the commission, might be extremely valuable to certain of the Bell system companies in obtaining short-term funds. The New York Company had not borrowed short-term funds from its parent for a number of years, largely because it could obtain them cheaper on the open market.

The commission examined in great detail the transactions between the New York Company and Western Electric, from which it purchases equipment and supplies. Their reasonableness, said the commission, is always a matter of inquiry in any rate proceeding, since the affiliates do not deal at arm's length. The commission adhered to the view previously expressed that the test of whether the manufacturing company's profit from the

operating company is reasonable or not depends not upon the return in any one period but upon its average return over a reasonable period of time. The commission did not regard a return of 8 per cent under such circumstances unreasonable.

Western has advantages over other manufacturing companies, such as the absence of selling expense in the ordinary sense in which that phrase is used, no credit losses, a large volume market for telephone supplies, and the advantage of knowing in advance its sure-customer requirements. Nevertheless it is subject to a greater swing between its good and bad years than a regulated utility.

Reproduction Cost Evidence

The commission considered reproduction cost evidence, as required by the court's decision, but concluded that it could not determine with any exactness the amount by which the cost of replacing the plant in kind, or building a substitute modern plant, exceeded the investment in the existing plant. The commission felt that a more accurate result could be obtained by using an investment rate base and adjusting for the factor of inflation in the allowed rate of return.

As an illustration of the difficulty of determining reproduction cost to be used as a proper measure of the rate base it was pointed out that two identical store properties built at different times might have the same cost of reproduction. If one was built as presently constituted and the other had been altered many times to make it identical, the cost of the latter would clearly be much greater than that of the former. Leaving out any question of depreciation, the commission doubted if a proposed purchaser would attach greater value to the one building because of its higher actual cost than to the other.

The commission, in analyzing present costs applied to central office equipment, said that since the cost of special construction of obsolete equipment is necessarily high, the tendency is to increase the reproduction cost of obsolete equipment proportionately higher than the cost of its modern counterpart. "The cost of making new parts for a Model T Ford could be expected to be higher than the cost of parts for a current model."

The correctness of pricing of equipment, it was said, depended upon the correctness of Western Electric's prices applied to book cost figures. Profits of Western in the year used as the measuring stick became extremely material. The measuring stick was said to be excessive by the amount that the profits during the period used to reprice the property were above what they would have been had the period chosen shown an average profit.

One item which affected the measuring rod and resulted in an overpricing of the plant, said the commission, was the fact that included in Western's prices were the theoretical taxes which it would pay if it were a separate entity. By filing a consolidated return Western pays no taxes on intercompany profits and has refunded those to its purchasers within the Bell system who joined in the consolidated return. The New York Company credited money so refunded to its plant account.

Two views could be taken, said the commission: one, that the refund is in reality a reduction in price and that Western's prices should be correspondingly adjusted. The second position—and that taken by the company—is that this is not a reduction in price but is simply a tax deferral and that, since it reduces the amount of plant on the books, there will be less property to depreciate, and hence, over the years, there will be increased taxes because of decreased deductions for depreciation.

The commission saw merit in the company's argument, but if it had the effect of a tax deferral, there should be a corresponding rate deferral. The commission emphasized that the key to the company's whole repricing was the reasonableness of Western's prices as of the time, and if Western included in its prices a tax which it never paid and would never be called upon to pay, then those prices were unreasonable.

Accrued Depreciation

The amount of depreciation to be deducted creates a curious problem in connection with a revalued rate base. Depreciation rates are fixed by the Federal Communications Commission. They are binding upon the state commission for purposes of accounting, but the commission can, for the purpose of determining what are fair charges to operating expenses, adopt other or different rates in a case of this kind.

The company had accrued a reserve for depreciation in conformance with the rates fixed by the Federal Communications Commission. The company contended that the accrued depreciation was properly measured by reserve requirement, but the commission refused to substitute a reserve requirement in place of depreciation reserve. The amount of accrued depreciation, it was said, can never be fixed with exactness, and the commission was inclined to believe that the collective judgment of the years is probably a more accurate estimate of the amount which should be deducted in determining a rate base than any present spot view.

There was said to be no difficulty in deducting the reserve from the cost rate base, but, it was said, the reserve could not be deducted from a reproduction rate base, and the commission knew of no way accurately to relate an existing reserve, accrued on the basis of cost, to a theoretical rate base based upon some revaluation theory.

Rate of Return

The commission, although aware that in many states commissions have fixed rates upon the basis of a theoretical rather than actual debt structure and have been sustained by the courts, was hesitant to substitute its judgment for that of management, and for the purpose of the case it used the company's actual capital structure.

The commission recognized the fact that interest rates have increased. There were said to be two factors in determining the cost of money. The first is what might be styled as pure interest, the general level of prime rates. To this might be added a factor for risk. While the company enjoys the highest credit rating, the commission had in respect to its equity investment the problem of inflationary costs. Consideration was also given to the fact that new plant would be built at higher prices. This has the tendency to increase the average investment per unit so that the new plant must produce proportionately more income (either as the result of more revenue or decreased expenses or both) than the old plant if the rate of return is to be maintained. The commission must consider a rate which will be adequate in the foreseeable future rather than a spot rate of return.

Rate Increases

The commission did not believe it desirable to increase intrastate toll rates at the time. It was familiar with the fact that interstate rates are lower than intrastate rates throughout the United States for toll distances. It felt that an increase in the disparity at the time would be far from helpful in future negotiations with

the Federal Communications Commission on the subject.

Any comparison of rates of the small exchanges of the New York Company with those of the systems of the independents would lead to the conclusion that those rates were depressed and that a larger percentage increase should be made in the smaller exchanges than in the larger exchanges.

Regulatory Lag

The commission said that it could not under the law increase rates to make up a past deficiency. Critics of the regulatory process had pointed out that the regulatory lag is one of the "most serious faults in regulation." In the present case, after it was returned by the court, the company waited nine months before it asked for a hearing, presumably because of the time required to prepare the case on reproduction cost. The case could have been completed several months earlier without proof relating to reproduction cost.

The commission said it did not wish to be understood as criticizing the company for exercising what it believed to be its legal rights, but it could not help but point out that under the law as it now exists delay in determination in cases, even though that delay be unavoidable, penalizes either the company or the customers or both.

Hotel Rates

Some increases were allowed for charges made by hotels to their customers for placing outgoing calls. The commission also considered a rate for semipublic switchboard service supplied to the New York Trade Show Corporation. This corporation has a large building containing a number of exhibition rooms which it leases on a short-term basis to exhibitors who desire to display their merchandise to prospective customers. The commission concluded that the same rate should apply as that for hotels and that the corporation should be permitted to make the same surcharges to its customers as do the hotels. *Re New York Teleph. Co. Case 16548, October 10, 1957.*

Billing and Deposit Questions Considered When Rates Increased to Meet Higher Costs

THE California commission authorized Southern Counties Gas Company to increase rates $6.5 million. The company had sought an increase of $7,112,000. The new rates were calculated to yield a return of 6.5 per cent. The company based its request for higher rates on plant growth at higher than historical unit investment cost per customer, increased unit costs for gas purchased from producers, major expenditures for long-distance pipelines to obtain additional out-of-state gas and higher wages and property taxes.

In authorizing the increase, the commission observed that no advantage could be gained for either the company's customers or the state by restricting the company to so low a return as to hamper it in the attraction of capital funds needed for necessary plant expansion.

Bimonthly Billing

A customer had suggested to the commission that if the company would accept bimonthly billing the saving might preclude the need for a rate increase. A company witness conceded that the savings from bimonthly billing might be between

$500,000 and $600,000 per year, but that such saving would be less than one-tenth of the requested rate increase. He pointed out that there is a more seasonal swing in gas bills than in other types of utility services and that the adoption of bimonthly billing would cause a large increase in the number of high bill complaints during the winter months.

Furthermore, he pointed out, many persons work on a monthly budget and prefer to be billed monthly. Consequently he believed that the adoption of bimonthly billing would result in an increase in uncollectible bills. The commission accepted the company's position and did not require the adoption of such a billing practice.

Return Allowance

In considering the question of rate of return, the commission referred to its former finding of 6 per cent as a fair return allowance for the company. It pointed out that the cost of money has increased substantially since the last rate order involving this company whereas the company is faced with a continuing construction program of substantial proportions to meet the needs and lawful demands of its customers as required by the commission. Facilities must be provided in time ahead of the need therefor and by the company's own direct financing. An analysis of its earnings over the past several years disclosed a definite and constant decline in its rate of return to the point that the company has seldom, if ever, been able to earn the return previously found reasonable by the commission.

As of August of this year, the company has completed and put into operation, new pipeline facilities needed to transport an additional out-of-state gas supply. These facilities and other major improvements represent a large expenditure of new capital, with a resultant depressing effect upon rate of return, unless recognition is given "to the actualities."

These new facilities will be in operation during the full first year after the new rates are in effect. The effect of these new facilities on the rate of return was considered. This was done by recognizing and allowing for a substantial downtrend in the rate of return which the commission estimated to be 0.63 per cent. Therefore it set the rates at a level which would have shown a return of 7.13 per cent on the adopted results for the test year 1957 and which should enable the company to earn a 6.5 per cent return in the immediate future.

Customer Deposits

The company claimed that the fund made up of $2.50 customer deposits is inadequate to offer any protection against uncollectible bills and that it is not taking such deposits, as it costs more to administer and account for the fund than the gain in revenue warrants. Consequently it requested that the deposit be increased to $5.

The commission staff suggested inauguration of an account opening charge so that those persons who open accounts often will pay for the extra accounting and meter reading costs which they create. The company admitted that the adoption of such a charge would result in additional revenue of about $500,000 per year, but stated that it would adversely affect customer relations. The commission authorized the higher deposit but required the company to give further study to the proposed account opening charges. *Re Southern Counties Gas Co. of California Decision No. 55579, Application No. 38211, September 17, 1957.*

Commission Rule Controls Handling of Disputed Electric Bill

A CALIFORNIA court of appeals reversed a lower court decision which awarded damages for injury sustained by a consumer as a result of disconnected electric service. The appellate court ruled that the company was justified in terminating service because the consumer failed to pay a disputed claim for electricity in accordance with rules filed with the commission.

The charges in question were made under a service contract which provided that its assignment could be accomplished only with the written consent of the company. The contract embraced accounts for service to several of the customer's properties. He sought to prove an assignment of one of the accounts, and hence nonliability under it, by showing an oral agreement to that effect with a company clerk. The clerk had neither actual nor ostensible authority to modify a service contract.

In the event of a dispute as to the correct amount of a bill, a customer is required, under the rules on file with the commission, to deposit with the commission the amount claimed by the company, pending settlement. The customer failed to deposit the amount claimed to be due under the "assigned" account, and all service then being provided under the contract was thereupon discontinued.

The lower court had instructed the jury that if there were grounds in good faith to dispute the correctness of the company's charges, the customer, upon tendering the rate for the current term, would be entitled to continued service pending settlement.

The appellate court held that the lower court's view was incorrect. The rule must control, said the court, since the commission's jurisdiction is paramount. *Morse v. Pacific Gas & E. Co. 314 P2d 192.*

Application for Rehearing Not Prerequisite to Review of Decision Made on Remand

AN application for rehearing need not be filed with the commission in order to clothe the district court with jurisdiction to review a decision of the commission made in accordance with a remand order, the Kansas supreme court ruled in a case involving telephone service.

The court had sustained a commission decision that telephone users in a particular area were not entitled to receive service from two exchanges owned by separate companies. The case was remanded, however, for the fixing of a boundary between the two companies. An untimely application for rehearing of the subsequent boundary determination was denied, whereupon the applicants complained to the district court that the commission's determination was not in accordance with the remand order. The commission moved for judgment on the pleadings.

An order overruling a motion for judgment, said the court, is not a final order and is therefore not appealable except where the motion is equivalent to a demurrer.

Where issuable facts are joined by the pleadings, the motion is not the equivalent of a demurrer. In the instant case, the issue of the unlawfulness or un-

reasonableness of the boundary order was still before the court and the parties were not foreclosed from further litigation of the controversy. The court said the order overruling the motion was in no sense a final order and was not appealable. *Stewart et al. v. Kansas Corp. Commission, 313 P2d 749.*

System Improvements Ordered in Rate Proceeding

A SMALL water company applying to the California commission for permission to increase rates was granted an increase, effective after certain system improvements had been completed. The commission, in its directives, set deadline dates by which the service improvements were to be made.

The accounting records of the applicant consisted of a meter reading book and a checkbook and nothing else. The bank account to which the checkbook related was a joint account in which the cash funds of a number of ventures were commingled. It was impossible to determine water utility receipts, either collected or deposited, from utility records, nor was it possible to determine water utility expenditures with any reasonable degree of accuracy. What few and incomplete records might have been available had been both lost and unlawfully destroyed by the applicant.

In view of the evidence respecting records, it became an idle gesture for the commission to attempt either to establish a rate base or to relate net revenues thereto for the purpose of rate fixing. The company's need or entitlement to increased revenues, therefore, was viewed without the customary measurement of net revenues related to a depreciated rate base as a test of the reasonableness of the proposed rates.

The commission found the facilities, instrumentalities, and equipment to be inadequate, insufficient, and unreasonable. The company was required to make the minimum system improvements recommended by the commission engineer, the commission allowing a return on such added investment. The company was also held entitled to some return on existing plant. For the purposes of this proceeding only, the commission constructed an undepreciated rate base, consisting of the appraisal of physical plant, less the plant known to be retired, plus plant to be added. A rate of return of 5 per cent was approved.

The company was directed to maintain and preserve adequate records. The company was also ordered to install meters on any and all service connections not presently provided with them, and to bill every meter delivery of water strictly in accord with filed tariffs. The evidence had shown that certain subdivisions and customers had been receiving water at less than filed rates, a practice which the commission found to be unduly discriminatory. *Re Riverside Grove Water Co., Inc. Decision No. 55427, Application No. 38674, August 20, 1957.*

Five-year Call Limitation Approved For New Bond Issue

THE Georgia commission has authorized Atlanta Gas Light Company to issue $8 million principal amount of first mortgage 25-year bonds at competitive

bidding, with a 5-year limitation on redemption with lower-cost funds.

In February, 1956, the commission issued a statement of policy in which it declared that any restrictions on the calling of bonds for redemption where a lower rate of interest can be obtained is contrary to the public interest. However, the commission thought it proper to exempt the company from this policy requirement upon testimony of a company officer that the call limitation would result in significant savings in the initial effective interest cost in view of the present shortage of capital funds and the current high interest rate. It appeared that investors are willing to accept lower interest rates for securities having the redemption limitation than for those without it.

The proceeds will be used to provide working capital and to pay off short-term bank debt incurred for additions and improvements. As a result of this financing, the company's debt ratio will be increased from 48.6 per cent to 55 per cent. The preferred stock rates will become 12.1 per cent, while common stock and surplus will be reduced to 32.9 per cent. *Re Atlanta Gas Light Co. File No. 19367, Docket No. 1200-U, September 6, 1957.*

Gathering of Natural Gas in Kentucky Held To Be Interstate Transportation

THE transportation of natural gas by Barnes Transportation Company, Inc., from the wells of an independent producer to the facilities of an interstate transmission company for a contract charge per Mcf was held to constitute "transportation in interstate commerce" under § 1(b) of the Natural Gas Act, even though all of such gathering took place wholly within the borders of Kentucky. A certificate was issued to Barnes under § 7(c).

Barnes' pipeline system moves gas from United Carbon Company's wells to a number of delivery points on the pipeline of United Fuel Gas Company. Barnes has no compression stations, gasoline plants, dehydration plants, purification plants, or gas storage projects. The gathering process is accomplished under wellhead pressures. After delivery to United Fuel, the gas is compressed and transmitted out of state. Barnes, which is a subsidiary of United Carbon, makes no jurisdictional sales of gas.

The commission noted that Barnes' facilities were, at least in part, gathering facilities. Section 1(b) exempts gathering as well as production. The commission distinguished between the company's gathering facilities, for which no certificate need issue, and its transportation facilities, for which a certificate is required. "Gathering" as understood in the natural gas industry, it was observed, means the collecting of gas from various wells and the conveying of it by individual lines to a central point where it is delivered into a single line. The gathering process ends when the gas reaches the central point for delivery into the single line.

The commission required to be certificated all of Barnes' facilities "lying downstream from the point of final commingling of the gas to the point of ultimate delivery into the facilities of United Fuel."

The upstream lines were said to be gathering facilities. In the few cases where a single line was employed to deliver gas from a well to the interstate pipeline, all of the facilities from the wellhead to the point of delivery were required to be certificated. It is the continuity of service

which must be protected, the commission stated. *Re Barnes Transportation Co., Inc. Opinion No. 306, Docket No. G-7348, September 27, 1957.*

Lease of Nonexercised Motor Carrier Permit Denied

THE Colorado commission denied in part a motor carrier's application for authority to lease its permit to another carrier. The permit authorized it to haul freight over two routes, one of which the carrier failed to serve for many years. Other carriers operating in the same area had, of necessity, assumed the burden of rendering the public service which the existing carrier had failed to render.

The commission held that now to permit a carrier who has allowed his authority to lie substantially dormant to lease that authority and extend the operation, would be tantamount to the granting of new authority in the area without showing public necessity. The commission thereupon revoked and canceled the authority under the carrier's permit to operate over this abandoned route.

As to the route over which operations were conducted, the carrier was allowed to give a limited and restricted lease. The commission ruled that the transfer or lease of a motor carrier's permit which has been allowed to lie dormant while only a small portion of the area authorized to be served was actually served, should be restricted to the service that has been previously rendered. *Re Monks, Application No. 15549-PP, Decision No. 48568, August 22, 1957.*

Railroad Right of Way Sold to County for Superhighway

THE Illinois commission approved, subject to condition, the sale, by a railroad, of a segment of its right of way and certain adjoining lands and facilities located on the real estate to be conveyed, to the county of Cook. The county was undertaking the construction of a comprehensive superhighway system and the right of way was necessary for the construction and completion of an expressway.

The commission found that the consideration for the sale represented the present fair cash market value of the property. Approval was conditioned upon the county providing for a comparable fixed rail mass transit facility connection from the new terminus to another terminal. The order specifically set forth that the railroad had no obligation to restore the facilities sold. The county was also ordered, prior to the construction of the comparable fixed rail mass transit facility, to submit plans to the commission for approval. *Re Chicago, Aurora & Elgin Railway Co. No. 44398, August 16, 1957.*

Utility Termed Derelict in Duty Involving Construction Payments

THE California commission indicated that Lakewood Water & Power Company was derelict in the performance of its obligations to the commission and the

ratepayers in its dealings with a construction company. The matter arose upon application by the utility for a water rate increase, which in turn raised the question of whether payments to the construction company should be included in plant costs. The instant proceeding was limited to the commission's order to Lakewood to produce books and records of the construction company pertaining to the payments.

Without seeking bids from other concerns, the utility had authorized the construction company to do extensive work for it over a period of years and had paid relatively large sums for the work. It developed that the family of the general manager and director of Lakewood controlled the construction company. There was evidence that the utility manager guided his family's decisions in the operation of the construction business.

Although it was determined that Lakewood was in fact unable to produce any considerable part of the required records, the commission pointed out that it is an unhealthy situation for an officer and director of a public utility to exercise even slight control over the operations of a supplier. Such a situation affords abundant opportunity for padding of plant costs. It creates a suspicion that Lakewood did not use its best efforts to procure labor and materials at the best obtainable price. The commission did not say that it found any padding by Lakewood but indicated that opportunity would be given at the rate hearing to enable the utility to show that no unlawful conduct was involved in its dealings with the construction company. *Re Lakewood Water & Power Co. Decision No. 55525, Application No. 37844, September 3, 1957.*

Preponderance of Evidence Sufficient to Justify Telephone Discontinuance

How much evidence is required to sustain a telephone company's discontinuance of service to a subscriber accused of violating a tariff provision against the use of facilities for unlawful purposes? The Missouri commission, faced with this question, held that establishment of the fact of illegal use by a fair preponderance of evidence was sufficient.

Although the burden of proof is upon the company to establish as a fact that the telephones are being used as instrumentalities to violate the law, said the commission, and the subscriber is not required to show that his use is an innocent and lawful use, the company's showing does not have to be established beyond a reasonable doubt.

The subscriber had insisted that he needed his four telephones to conduct his business. He admitted that they were not used to receive, or to obtain, orders for the sale of tobacco merchandise but insisted that the instruments were used for incoming calls to card-playing customers who utilized back-room facilities.

The evidence, however, showed that the telephones were clustered on and about the subscriber's desk in the front room of his establishment. When police officers manned the phones during raids, the incoming calls were invariably for the subscriber and not for one of the customers.

Police surveillance and a number of raids had disclosed scratch sheets and form sheets and odd sheets, as well as bookie take sheets showing various amounts the betters owed to the bookie. The subscriber had been talking on the phone on every occasion when the premises had been raided, and he had invariably terminated his conversations

abruptly. The subscriber had stated to a police officer that all the paraphernalia seized was used by him in calling out his own bets from his own place of business.

The commission held that the evidence compelled the conclusion that the subscriber had received bets and wagers from others and had communicated his own bets and wagers over his telephones regularly and continuously. A tariff provision aimed against the use of facilities for unlawful purposes, pointed out the commission, applies to use by either the subscriber or others. Therefore, whether the complainant used the telephone to communicate his own bets or wagers, which he admitted, or to receive bets and wagers from others, as the evidence showed, the telephones were used as instrumentalities to violate the law. Discontinuance was justified. *Padratzik v. Southwestern Bell Teleph. Co. Case No. 13671, October 1, 1957.*

Telephone Illegally Used by Husband Restored to Wife

ALTHOUGH the Illinois commission agreed that a telephone company had acted reasonably in refusing service to the wife of a customer whose telephone had been removed from his residence because of the unlawful use of it for gambling purposes, the commission found, after hearing, that service should be supplied to her at the same residence.

Evidence showed that a telephone was indispensable to the practice of her profession as a registered nurse. Moreover, she testified that she would take affirmative measures to see that the telephone would not be used for unlawful purposes. Upon this showing the commission ordered the utility company to restore telephone service. *Schreiber v. Illinois Bell Teleph. Co. No. 44351, September 17, 1957.*

Other Recent Rulings

Return Allowance for Financing. The Wisconsin commission authorized a rate of return of 8.31 per cent for a small municipal water plant in order to provide sufficient revenues to permit the financing of needed construction, but the high return, based on unusual circumstances, was declared to be exceptional and not intended as a change in policy relative to what constitutes a reasonable return for such a plant. *Re Sanitary Dist. No. 1, Town of Troy, CA-3529, August 26, 1957.*

Fare Changes. The New York commission authorized a transit company to put into effect fare changes which would raise the adult cash fare from 15 cents to 20 cents and the children's fare package from 10 tokens for 80 cents to 5 tokens for 40 cents. *Re Syracuse Transit Corp. Case 18168, August 27, 1957.*

Intrastate Rail Rates Up. The South Dakota commission approved a 5 per cent increase in intrastate railroad freight rates, raising them to the level of newly authorized interstate rates, upon a showing of increased operating costs and a rate of return of only 2.3 per cent for 1956. *Re South Dakota Rail Carriers, F-2462, August 27, 1957.*

Forfeiture of Company Claims. The Ohio court of appeals held that a petition alleging violation of a statute forbidding gas, water, or electricity suppliers from requiring advance deposits from financially responsible freeholders and providing for forfeiture by the company of all sums due for services upon conviction of a violation of the statute stated a cause of action for forfeiture of the company's claims for electric and gas service, although the petition lacked an allegation of the company's criminal conviction. *Slothower v. Dayton Power & Light Co. 144 NE2d 219.*

Debenture Issue. Duke Power Company obtained permission from the Federal Power Commission, under § 204 of the Federal Power Act, to sell at competitive bidding $50 million of nonconvertible sinking-fund debentures, the proceeds to be used for construction and reimbursement of the company's treasury. *Re Duke Power Co. Docket No. E-6764, August 28, 1957.*

Competitive Bidding Waived. In authorizing an electric company to issue $7 million of preferred stock, the Federal Power Commission did not require competitive bidding where, under an underwriting agreement, the yield would be fixed at between 6 and 6¼ per cent and the underwriters' commission would be between 1.9 and 2.1 per cent. *Re California Electric Power Co. Docket No. E-6770, August 30, 1957.*

Extended Area Telephone Service. The Illinois commission ruled that telephone subscribers were entitled to extended area service between the exchange serving them and the exchange of another company serving their business and social center, where a substantial majority of the subscribers desired such service even at a necessary increase in local rates and where there was a considerable volume of toll calls in each direction between the two areas. *Lytle et al. v. Illinois Bell Teleph. Co. et al. No. 44046, September 17, 1957.*

Shipping Charges Recoverable. The United States district court allowed a railroad to recover freight charges for goods shipped to a consignee under a bill of lading containing a nonrecourse clause and where consignee had possession of the goods and had filed no claim for damage to them. *Northern P. R. Co. v. Associated General Contractors of North Dakota, 152 F Supp 126.*

Illegal Contract Precludes Recovery. The Maryland court of appeals held that a carrier hired by the holder of a government contract who acts as a freight forwarder for the latter without a permit has entered into an illegal contract and cannot recover the difference between the price received for hauling and the full published tariff rate. *Shirks Motor Express Corp. v. Forster Transfer & Rigging Co., Inc. 133 A2d 59.*

Passenger Train Discontinuance. The United States district court affirmed an order of the Interstate Commerce Commission which refused discontinuance of a railroad passenger train and held that the running of a train is not a "regulation or practice" within the meaning of the Interstate Commerce Act authorizing the commission to prescribe regulations to be observed by a carrier notwithstanding state law or order to the contrary. *Banta, Trustee of New Jersey & New York R. Co. v. United States et al. 152 F Supp 59.*

Appendix

Important addresses delivered at the London, England, sessions of the Public Utility Law Section of the American Bar Association, July 26, 1957.† The addresses delivered at the New York city sessions, July 11-13, 1957, were printed in the September 26th issue of this magazine.

Electricity Supply in England and Wales: Some Legal Aspects of a Nationalized Industry

By R. A. FINN, BA, AND J. S. MILLS, LLB*

THE undertakings of the Central Electricity Authority and the twelve Area Electricity boards in England and Wales constitute, we believe, the largest electricity supply undertaking operating under a single operation control. It had at the thirty-first of March, 1957, a total maximum output capacity of its power stations somewhat over 20 million kilowatts—about twice the capacity at the moment of nationalization nine years earlier. The figures may not seem large in relation to the total resources of our hearers' own great nation; but the character of the system and the fact of its nationalization suggest questions of interest.

From the standpoint of the lawyer, however, there appear to have been relatively few serious legal issues specifically resulting from the nationalization of the industry—a tribute both to the draftsmen of the Electricity Act of 1947 and to those who have been engaged in the working of the system in the succeeding ten years.

The interest of the system for a legal audience concerned with public utility operations in another country is therefore to be found in some features of the process by which nationalization was achieved and in the legal framework within which the nationalized system works, and in some incidental effects of nationalization on the preexisting features of the electricity supply legislation. Any views expressed on these matters by the authors of the paper are, of course, personal to them and not to be taken as representing the views of the bodies for which they work.

Our hearers will already have received a full account of the history of the gas industry and of the process of its nationalization.

We will not therefore seek to trace in detail the corresponding story of electricity supply beyond noting that it too, in its shorter life, and more rapid expansion, has a history of governmental inquries from time to time and revising legislation from 1882 onwards at intervals of roughly a decade.

A brief account of the statutory process by which nationalization was achieved in the electricity supply industry may still be of some interest to the lawyer as a preliminary to some account of the existing situation.

Position before Nationalization

THE bodies concerned with public electricity supply immediately before nationalization, that is on March 31, 1948, in addition to the Ministry of Fuel and Power (supervisory functions mainly carried out through the Electricity Commissioners) were the following:

1. The *Central Electricity Board,* a public board created by a statute of 1926, to give supplies of electricity to authorized undertakers, the supplies being acquired on statutory terms from the principal stations in the country ("selected stations") owned by undertakers of one or other of the classes mentioned below and being transmitted by the main transmission lines, usually known as the grid, owned by that board.

2. About 27 *power companies,* brought into being by Private acts during the early part of the present century—largely as a result of improved transmission having re-

†Editor's note: An exception is the address by the Honorable Leslie F. Stemp, which was separately published as a feature article in the October 10, 1957, issue, at page 541.

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sulted at that time in the use of higher voltages—and giving supplies in certain areas to other authorized undertakers and to power consumers. In the majority of cases these companies also obtained some distribution powers.

3. About 360 local authorities and 160 companies (*authorized distributors*) empowered to give supplies in specified areas under the authority of Provisional or Special orders granted by the Board of Trade, or after 1919 by the Electricity Commissioners, under powers conferred by public legislation of 1882 and later years or under the authority of private or local acts. Some of the companies were also gas or water undertakers ("composite companies").

4. Three *joint electricity authorities*—the creation of which was authorized by an act of 1919 and whose members were representative of local authorities' authorized undertakers and others in a specific district—and six *joint boards* created under various enactments.

5. Four *power station companies,* not themselves authorized undertakers, but owning stations for supply of electricity to such undertakers.

6. The *North of Scotland Hydro Electric Board,* the creation of an act of 1943, responsible for the development of supply in the north of Scotland.

7. The *Electricity Commissioners,* an authority created in 1919 for promoting, regulating, and supervising the supply of electricity under the direction of the Ministry in charge, to grant Special orders authorizing supply, and to exercise a variety of powers of control.

8. A number of *nonstatutory undertakings.*

It is worthy of note that at this time the greater part of the industry was already in public ownership in the hands of the local authorities. The undertakings of companies who were authorized distributors—but not generally the power supply parts of the undertakings of power companies—were ordinarily subject, under acts of 1882 and 1888, to rights of purchase by local authorities, exercisable normally at 10-year intervals after an initial forty-two years. Companies in London were subject to special provisions for transfer to a public authority in 1971.

Procedure of Nationalization

THE process of nationalization altered the ownership of the supply industry. In general it altered little the undertakers' legal duties to individual consumers or to other public authorities.

The pattern of nationalization under the Electricity Act of 1947 has many features in common with the pattern under the slightly earlier Transport Act of 1947 and the subsequent Gas Act of 1948. All property rights, liabilities, and obligations of the undertakers (except some of the nonstatutory undertakings) were transferred to new statutory bodies corporate—in this case the British Electricity Authority and 14 Area Electricity boards. These assets and liabilities were divided: The grid and all other assets of the Central Electricity Board, the power stations of all undertakers, and the cash, investments, tax liabilities, and rights were transferred to the British Electricity Authority, and the remaining assets to the Area Electricity boards according to the situation of the undertaking which had been the owner. In many respects the new bodies were in effect put into the shoes of the old. There were transferred to them most of the contracts of the previous undertakers, with necessary adaptations, including the contracts of service of employees. But interundertaker contracts did not survive nor did the contracts of directors of companies other than managing directors and the like. The assets of some holding companies were similarly transferred. These holding companies and the company undertakers (apart from the composite companies) were statutorily dissolved at the moment of transfer of their undertakings.

COMPENSATION was provided, in case of the companies, by an issue direct to the holders of shares and other securities of the former company of British Electricity stock created by the British Electricity Authority and guaranteed by the British Treasury, and of an amount equal to the value of such securities in accordance with a statutory formula, regard being had to the market value of government securities at the time.

There was, of course, no scope for liquidators where companies were dissolved as compensation went to the shareholders and not to the company.

The basis of the formula for valuation of the converted securities was in a normal case the average of the London Stock Exchange Official Quotations on a series of six dates, in November, 1946, or alternatively on six specified dates in 1945, whichever was the greater. In the case of unquoted securities compensation was arrived at by negotiation or arbitration on a corresponding basis.

For the local authority undertakings the only compensation arrangements made were the assumption of the loan debt and other liabilities of the various undertakings by the Central Authority, together with payment of a lump sum of £5m distributed among the local authorities in question as compensation for severance. It was not thought necessary that the local authorities should be compensated for the excess of the value of the assets transferred over the loan debts and other liabilities taken over.

To safeguard assets between the introduction of the bill and the actual transfer on nationalization, the bill when introduced was found to contain retrospective provisions for control of dividends and other provisions to prevent the dissipation of assets and to allow the subsequent disclaimer by the boards of agreements and leases made unnecessarily or imprudently. But these provisions related only to companies and there was no such provision as was afterwards found desirable to include in the Gas Act enabling a board in certain cases to recover sums transferred from the gas undertakings account of the local authority to other accounts.

THE principal problem presented by the vesting arrangements arose where the existing undertakers had other interests besides electricity supply. That was particularly in the case of local authorities and composite companies which also owned gas or water undertakings. The problem was met in the case of the local authorities, by vesting in the new boards only the property rights, liabilities, and obligations which the local authorities had held or used wholly or mainly in their capacity as authorized undertakers, and by further providing for including in this class or excluding from it, properties which were held or used partly in one capacity and partly in another as might be agreed between the Electricity Board and the local authority, or in default of agreement, decided by the Minister of Health (now the Minister of Housing and Local Government). The fringe of doubtful cases thus became primarily a matter for negotiation and arrangement between the interests concerned; and on the whole this arrangement seems to have worked reasonably well. Of the large number of local authority cases which fell for decision in this way, comparatively few appear to have required reference to the Minister or to have become the subject of decision in the courts.

Somewhat similar arrangements were made for the not very numerous composite companies.

The transfer of assets was naturally accompanied by the abolition of the former purchase rights of the local authorities, which, if exercised, could only have resulted in the piecemeal and gradual breakdown of the larger company undertakings and which ceased to be required when the undertakings themselves had been transferred to the new publicly owned bodies.

The Electricity Commissioners were dissolved and such of their functions as continued to be required under the new legislation were transferred to the Ministry of Fuel and Power, now the Ministry of Power.

Postnationalization Events and Authorities

THE situation thus created in 1948 has not been left unaltered by Parliament. By the Electricity Reorganization (Scotland) Act 1954, the undertakings of the two Area Electricity boards which had been set up in the south of Scotland by the act of 1947 and that part of the undertaking of the British Electricity Authority which lay in the same areas were combined in a new South of Scotland Electricity Board, concerned with both generation and distribution, and detached from the policy control of the British Electricity Authority, the name of which was consequently changed to the Central Electricity Authority.

Further, in 1954, a committee under the chairmanship of Sir Edwin Herbert was appointed by the Minister of Fuel and Power "to inquire into the organization and efficiency of the electricity supply industry in England and Wales in the light of its working under the Electricity Act, 1947 and to make recommendations."

As a result of that committee's report—

which proposed a number of changes in the top structure of the industry—an Electricity Bill was introduced by the government in the present session of Parliament and is expected shortly to be passed[1] and to come into full operation on the first of January, 1958. The changes resulting from this bill will have to be noted in their respective contexts as we continue our survey.

Existing Electricity Boards

As a result of the changes we have mentioned, the Electricity Supply undertakings in England and Wales at the present time consist—apart from a few nonstatutory undertakings—of the Central Electricity Authority and 12 Area Electricity boards.

The Central Authority is charged with the main duty to develop and maintain an efficient, co-ordinated, and economical system of electricity supply for all parts of England and Wales; and for that purpose it has to generate or acquire supplies of electricity, to provide bulk supplies for the Area boards and to co-ordinate the distribution of electricity by these boards, and to exercise a general control over their policy; and also to provide supplies of electricity for haulage and traction to railway undertakers and other supplies authorized by the Minister of Power.

The main duty of the Area boards is to acquire bulk supplies of electricity from the Central Authority and to plan and carry out an efficient and economical distribution of those supplies to persons in their area who require them. In addition to subsidiary powers in regard to the manufacture and supply of electrical plant and fittings—which we shall refer to again—the Central Authority and each Area Board is given power to do anything or enter into any transaction which "in their opinion" is calculated to facilitate the proper exercise or performance of their specified functions or which is incidental or conducive thereto. Company lawyers will recognize the value of the subjective test provided by the words "in their opinion" and the extent to which their inclusion may have freed these bodies from the more captious legal challenges to their exercise of powers and so simplified the tasks of their advisers.

The membership of these bodies is relatively small, the members in effect combining the dual functions of corporators or members and of directors. The Central Authority consists of not more than eleven members, of whom four are chosen in rotation by the Minister from the chairmen of the Area boards, and each Area board consists of not more than nine members, of whom one is the chairman of the Consultative Council referred to hereafter. The chairman and two deputy chairmen of the authority and the chairmen and deputy chairmen of the Area boards serve as full-time members.

The current Electricity Bill will make a material change as from the beginning of 1958. The Central Authority will then be dissolved and in place of it two new bodies will be constituted. One of these, the Central Electricity Generating Board, will in effect step into the shoes of the Central Authority as regards the ownership and operation of the power stations and the grid and the provision of bulk supplies of electricity to the Area boards. The other will be an Electricity Council consisting of the chairmen of the twelve Area Electricity boards, together with three representatives of the Generating Board and up to six independent members, including the chairman and two deputy chairmen. This body will have the duty of advising the Minister on matters affecting the electricity supply industry and of promoting the development and maintenance of an efficient, co-ordinated, and economical system of supply for England and Wales; and it will also perform such services on behalf of the Generating Board and the Area boards or any group of them as may be agreed with the boards concerned. It will be noted that the Central Authority's duty to co-ordinate distribution by the Area boards and to exercise a general control over their policy is not being reproduced.

Nature of the New Boards

Since 1948 there have been in England and Wales one very large and 12 large linked undertakings covering the whole public electricity supply of the country with clearly marked boundaries between them and with

[1] The bill received the Royal Assent on July 17, 1957, and so passed into law as the Electricity Act, 1957.

a smaller field for disputes within the industry than existed before 1948. The fact that the new bodies were, like any company or private persons, subjects of the Crown and not its agents or servants enjoying any of its privileges can hardly have been in doubt in the minds of lawyers within any of the nationalized industries. It would have seemed apparent, even without the decision of the court of appeal in Tamlin *v.* Hannaford (1950) 1 KB 18—to which another paper will have referred—and even without the prosecution of an Electricity Board and the conviction of two of its members for breaches of a defense regulation in regard to building control, that the new boards and their members were not above or outside the law.

The boards are, of course, liable as other bodies corporate to civil or criminal proceedings and must act within their powers as companies must—albeit their public accountability and position result in the expectation of the public that their behavior should in fact be different from that of companies.

The boards enjoy no freedom from taxation (except in regard to certain stamp duties in connection with nationalization transactions) but their income tax and profits tax and that peculiar form of local taxation which is known to the English as rates are at present arrived at on the basis that the industry is treated as a unit and payment is made centrally. In case of rates there is a formula for national computation, to avoid multifarious local valuations.

THE boards are not so fully empowered that they have no need to seek further powers from Parliament from time to time. They are authorized to promote bills with the consent of the Minister and they may naturally, and without consent, oppose a bill in Parliament promoted by others. Thus, the Central Electricity Authority, although endowed, as all the boards are, with the right to seek the authority of the Minister of Power to purchase land compulsorily and to acquire rights of placing electric lines across land compulsorily, has had occasion to promote two bills in Parliament for the purposes of hydroelectric works to be constructed in North Wales so as to give it the necessary authority to impound water and interfere with the water rights of others. Conversely, at just about the moment of nationalization the authority had occasion to oppose bills promoted in that Parliamentary session by a number of local authorities who sought to set up district heating undertakings with the apparent subsidiary intention of affording supplies of electricity: The result was a settlement of agreed amendments in the bills giving certain options to the Central Electricity Authority as the public generating body, to construct stations for the provision of heat in lieu of the station projected by the local authority, and protecting the rights of the Area boards to be the suppliers of electricity to the public.

As a further example, the authority later had occasion to petition against bills promoted by local authorities for constitution of smokeless zones, in a form which might have prejudiced the authority as the owner of power stations without affording the possibility of variation of the order on application to a Minister.

IN these proceedings on private Parliamentary bills the Electricity boards are in the same position as other promoters of such bills to appear by counsel before the committee on the bill and state their case. But in regard to proceedings on the floor of the House they appear to be in a somewhat different case from others. On the occasion of the second reading of the North Wales Hydro Electric Power Bill of 1951-52 the then Minister of Fuel and Power pointed out that the authority, as a nationalized industry, had not felt able to do all the things which the normal promoter of a Private bill would do (*e.g.*, arranging for certain members of Parliament to take up the case and support the bill on second reading) because there was a certain objection in principle to a nationalized industry getting into the position where it was promoting even a Private bill with the dangers of having, so to speak, a Parliamentary connection. It would appear that the authority takes the view that, because of the governmental control exercised through the powers of the Minister under the Electricity Act, it would not be right for the authority to "lobby" members of the House either for or against the government, and a similar view appears to have been taken by other nationalized industries. Such an indus-

try therefore depends on the support of its Minister and the good will of the House to secure the carriage of its bill at important stages other than the committee stage. And in the event—as recently—of there being public legislation affecting the industry, it is improbable that any views which the industry as a whole may have will be made known in the House of Commons unless it is through the mouth of the member of the government charged with the carriage of the bill.

SOMEWHAT similarly with regard to the House of Lords. In more than one case the chairman of a nationalized industry has been a Peer, but has been unable to act as spokesman for his industry in debates in the House of Lords. The matter has been the subject of discussion in the House of Lords on more than one occasion. As a result, the accepted position seems now to be that, although the constitutional rights and duties of a Peer cannot be interfered with and it must therefore be for the Peer himself in the last resort to decide whether he should speak on a particular occasion, he is under no duty to do so, and since a member of the government is responsible to Parliament for governmental control of the industry, it appears to be fairly definitely assumed that a Peer who is a member of a board should not generally speak on a matter affecting his board—a constitutional convention which seems to bear the marks of the typical British instinct for compromise.

Control of the Industry

THE outstanding feature of the nationalized industry is its public accountability. This is not derived from any single general enactment, but from a number of specific provisions and perhaps from a public attitude of mind towards the nationalized industries, and it may be made effective through a number of different organs.

(a) Minister of Power.

The member of the government responsible to Parliament for the industry is the Minister of Power. All the members of the Electricity boards are appointed by this Minister; and he has the power to give the Central Authority such directions of a general character as to the exercise and performance by the authority of its functions as appear to him to be requisite in the national interest. Since the authority is empowered to give such directions to Area boards as appear to be necessary or expedient for the purpose of co-ordinating the distribution of electricity by the boards and exercising a general control over their policy the Minister has, within the limits of these powers, the means of controlling the policy of both authority and boards.

The Minister also has more specific powers of direction to be exercised with the approval of the Treasury in regard to a central reserve fund for the industry and the disposal of any excess of revenue over outgoings in any year. In addition, in carrying out reorganization or development involving substantial outlay on capital account, the authority has to act on a general program settled with the Minister. A similar requirement is laid on it and each Area board in regard to training, education, and research. It is to the Minister too that the industry must look for consent to the construction of a power station on any land, the erection of overhead lines, the grant of compulsory wayleaves, the confirmation of compulsory purchase orders; and he has a variety of functions derived from earlier and general legislation.

IT is worthy of remark, however, that there is no public record of any direction having been given by the Minister to the authority, except some initial directions with regard to the form of accounts, or of any directions having been given by the authority to the Area boards beyond some formal directions given in the early days to bring about an immediate revision of retail tariffs.

But for a lawyer the existence of a power may not be without significance although the power be not exercised, and it is to be presumed that over-all the intentions of Parliament expressed in the statutory pattern have been given effect. It remains to be seen whether the new system set out in the Electricity Bill under which the powers of direction are to be exercisable by the Minister direct to the Area boards and Generating Board and not through the medium of a Central Authority or Electricity Council will prove significantly different in operation.

(b) Parliament.

THE authority is required to make to the Minister an annual report and to send to him a copy of its audited annual accounts in a prescribed form conforming to the best commercial standards. Area boards are required to make their reports to the authority and to send them a copy of their accounts. Copies of these are required to be sent by the authority with its own report and accounts to the Minister. These reports and accounts are laid by the Minister together with his own report on the exercise of his electricity functions before Parliament. In due course they are the subject of debate, which—within the limits of the short time usually allotted—affords an opportunity for reviewing the conduct of the industry. Debates also may take place from time to time on motions; *e.g.*, in the House of Commons on motions moved by Ministers, on ballot motions in Private Members' time, on the daily motion for adjournment at the close of the sitting, or in the House of Lords on a Peer's motion for papers.

More frequent in the Commons is the use of that old safeguard of the public, the right of a member to put questions to members of the government with regard to the exercise of their responsibilities. As a means—it may be an unwelcome means—of calling a Minister to task for the actions of his official subordinates it has great value; but its exercise in relation to the nationalized industries has been a matter of debate and difficulty from the early days of nationalization. Although Ministers are responsible for the policy of the boards over which they have powers, it is considered that they should not answer questions directed to matters of day-to-day administration and thereby deprive the boards of their initiative and perhaps create the attitude of "looking over one's shoulder." A considerable field of inquiry still remains; and quite apart from questions put in the House many members of Parliament frequently get in touch with a chairman of the board concerned on detailed matters raised by their constituents with them and this often results in the reasons for decisions affecting individual consumers being inquired into most thoroughly with a view to an explanation of the circumstances being afforded to the Member.

IN a further attempt to solve the problem of Parliamentary control without undue interference, the House of Commons has set up a Select Committee on the nationalized industries. One such committee proved abortive because the terms of reference were found to be so restricted as to be inoperative, and the present committee is constituted under the following resolution:

> That a Select Committee be appointed to examine the reports and accounts of the nationalized industries established by statute whose controlling boards are appointed by Ministers of the Crown and whose annual receipts are not wholly or mainly derived from moneys provided by Parliament or advanced from the Exchequer.

The results of the work of this committee have still to emerge but it was clearly the government's hope that the committee would set up a tradition of conduct which would result in its being regarded by the nationalized industries "not as an enemy or a critic, but as a confidant and a protection against irresponsible pressure as well as a guardian of the public interest." It was the government's view that the committee might concern itself with such matters as the financial outcome of operations, the working of the industry with reference to the devolution of authority within it, the techniques of managerial efficiency, recruitment and training of technical and management staff, relations with consumers councils, the public and outside industries, and the unremunerative responsibilities of boards.

THE possibility of some form of periodical inquiry or "efficiency audit" of a nationalized industry on behalf of Parliament has also been mooted from time to time. The nearest approach made to this so far has been the appointment of the Herbert Committee, already mentioned. Its report was published in 1956 and is the origin of the Electricity Bill already referred to, although there are differences of importance between the report and the bill. This was the first, and so far the only, government inquiry into the whole of any of the nationalized industries set up by the postwar legislation of the government of that time. An inquiry into the affairs of the National Coal Board by a

committee under Dr. (now Sir) Alexander Fleck was an internal inquiry instituted by the Coal Board itself.

One recent occurrence has focused attention on an unexpected feature of relations between nationalized industries and Parliament. A member of Parliament wrote to the Minister criticizing the methods by which an Area Electricity Board disposed of its scrap cable. The board apparently considered the letter defamatory of it and after discussions with the Member threatened him, through its solicitors, with proceedings for libel. The Member complained that this action was a breach of the privileges of Parliament and raised the matter in the House of Commons. On April 8th last, the matter was referred by the House to the Committee of Privileges, whose report has not yet been presented. On July 4th the Leader of the House stated that the committee has found the subject one of great complexity, involving all the traditions of the House. He was unable to give a date for publication of the report and the outcome must continue to be awaited with deep interest.

(c) Consultative Councils.

THE Electricity Act of 1947 provided what was intended to form (*inter alia*) an additional safeguard for individual consumers and would-be consumers of electricity and which may be of special interest. This was the constitution, for the area of each of the Area Electricity boards, of a Consultative Council composed of from twenty to thirty persons appointed by the Minister, principally from a panel nominated by the associations of local authorities and in part from representatives of other interests. The chairmanship of the Consultative Council is a paid part-time appointment made by the Minister. The person appointed is *ex officio* a member of the appropriate Area Board.

Each council has the duty of considering any matter affecting the distribution of electricity in the area, including the variation of tariffs and the provision of new or improved services and facilities within the area, and of notifying its conclusions to the Area Board where action appears to it to be requisite. They are to consider not only matters referred to them by consumers and persons requiring electricity supplies but also matters which may be referred to them by the board and—perhaps more important—they are entitled to be informed of the board's general plans and arrangements for exercising and performing the board's functions.

The functions of the council are related to an area, and, unlike the Consumers' councils appointed under the Transport Act of 1947, not concerned with the interests of particular classes of consumers throughout the country as a whole.

THEIR conclusions are to be considered by the Area Board; and the Consultative Council, after consulting with the board, may make representations to the Central Authority on matters arising thereout. If it then seems to the authority that a defect is disclosed in the board's general plans and arrangements they may give the board directions for remedying the defect and effect must then be given to any such direction. Further, the Consultative Council, after consulting the authority, may make further representations to the Minister who, if he finds a defect in the board's general plans and arrangements, may notify the authority, which must then give such directions as it thinks necessary to remedy the defect.

The Consultative Council is required to draw up a scheme for the appointment of committees or individuals to be local representatives of the council. These committees are partly made up of members of the council itself and partly of other persons appointed by the council, and it is their duty to consider local requirements with respect to electricity distribution, to make representation to the council, and to be available to receive representations from the consumers. Consultative councils have usually appointed a secretary and other officers (some on a part-time basis) and it is these officers who in fact deal with the correspondence and take the necessary preliminary action on points raised by consumers.

There is thus provided machinery by which views or grievances of the individual consumer who has not been able to obtain what he regards as satisfaction from his Area Board can be brought to the notice of the Consultative Council. The normal procedure is for the council and its officers to obtain the observations of the board on the point raised and then the council considers

whether or not to make a representation about it to the board.

A COUNCIL might consider through its committees about 100 points under this head in the course of a year's work. This complaints machinery should not, however, distract attention from the function of the councils of considering the appropriate board's general plans and arrangements. Under this head the chairman, deputy chairmen, and senior officers of boards have spent much time and effort in explaining the reasons for and effects of changes in policy; *e.g.*, in regard to the introduction of new tariffs.

If a Consultative Council forms the view either on an individual representation by a consumer or in considering a point of policy that there is a defect in the Area Board's general plans and arrangements, it may decide to pursue the matter beyond the board's decision by making representations in the first place to the Central Authority and if still dissatisfied to the Minister.

It will be observed, on the one hand, that at present, individual consumers do not have available an appeal procedure unless they enlist the support of the Consultative Council, although there is, of course, nothing to bar them from writing direct to the Minister, and some do. On the other hand, it is to be noted that the Consultative Council is concerned with the distribution of electricity and the general plans of the Area Board whose duty it is to deal with distribution and is not concerned with the affairs of the Central Authority, whose charges for the bulk supply of electricity will nevertheless largely determine the budget and retail tariffs of the Area boards.

Changes in these respects are being made by the current Electricity Bill. Individual consumers, as well as the Consultative Council, will be able to carry their case from the Consultative Council and the Area Board as far as the Electricity Council, but not further. The Electricity Council is to give advice—not directions—to boards but can make representations thereon to the Minister. The Consultative councils themselves will have their functions enlarged so as to consider matters arising out of the bulk supply charges to be made by the new Central Electricity Generating Board to the Area boards, and will be able to make representations after consulting both boards to the Electricity Council and thence to the Minister on this subject. This is an interesting development.

Public Accountability

SOMETHING of the incidence of public accountability will be seen from the foregoing description. It will be apparent from it and from the constant liability of a nationalized industry to criticism in the press that the electricity supply industry must be prepared at all times to give an account of itself and its actions. An appreciation of that fact is necessary for a fair appraisement of the organization of the industry, as the Herbert Committee noted, and it is in the light of public accountability and their wide statutory duties that the boards have had to organize their undertakings and provide a reasonable devolution of responsibility so that consumer and employee can obtain a decision from the man in charge within the particular unit without unnecessary reference back to higher authorities, while at the same time enabling the duty of accountability to be discharged when required.

We have noted that the authority is required to maintain an "efficient, co-ordinated, and economical" system and the boards to carry out an "efficient and economical" distribution of supplies. They are, however, under certain additional duties, such as the statutory responsibility in exercising and performing their functions, to "secure, so far as practicable, the development, extension to rural areas, and cheapening of supplies of electricity," and, to take another example, "to promote the welfare, health, and safety of persons in the employment of the boards." Duties such as these may not be enforceable through the processes of the courts, but they set a direction in which the board should travel and in respect of which it may be responsible to public opinion and ministerial control.

It may here be noted that the boards have no such thing as equity capital, the funds which are not raised from internal resources being all raised by borrowing at interest; and any excess of revenues over outgoings is to be applied for the purposes of the authority or the Area Board as the case may be,

subject to any directions given by the Minister of Power with the approval of the Treasury. These provisions, however—which will remain under the Electricity Bill with some rearrangement of language—seem perhaps less significant of the differences between a nationalized undertaking and other undertakings than the the incidence of public accountability on bodies with wide statutory duties whose success is not apparently intended to be measured solely by the financial surpluses from their operations.

Relationships between the Central Authority And Area Boards

WITHIN the industry itself, over-all control rests at present with the Central Authority by reason first of its statutory function of co-ordination and general control over the policy of the Area boards—enforceable at need by use of their statutory powers of direction already referred to—and secondly of their central financial responsibility and control.

So far as the first aspect of this relationship is concerned, we have already remarked on the general absence of the issue of formal directions by the Central Authority to Area boards. In practice the Central Authority conducts its relations with the Area boards largely by a system of conferences between the authority and the chairmen of the boards and in such circumstances the formal exercise of the power of direction may have been found to be unnecessary.

As regards the second aspect of this relationship, the Central Authority's financial responsibility, it is the statutory duty of the authority to secure that the combined revenues of the authority and the Area boards are sufficient to meet their combined charges to revenue account taking one year with another. The industry appears to have applied this as requiring that both the authority and each of the Area boards shall individually comply with the requirement; and when this session's Electricity Bill comes into force each board will be statutorily responsible for balancing its own revenue account.

The Central Authority is, as we have said, responsible for the generation of electricity and its revenues are provided through the charges made to Area boards for electricity sold to them for distribution to their consumers. These charges are regulated by the Bulk Supply Tariff fixed under the Electricity Act of 1947.

THE authority has one tariff for all boards and this is normally arranged to run for a year at a time. At the present time it consists of two components, a fixed charge in respect of each kilowatt of maximum demand during the year, and a running charge for each kilowatt-hour supplied, the latter including a variation by reference to the cost of fuel consumed. Hitherto the fuel cost adjustment has been based on the cost of fuel consumed at the authority's power stations in the area of the board taking the supply. A change has recently been made, however, because of increasing electrical imports into some of the areas as generation at the more economic power stations near the coal fields (mainly in the Midlands and North) is extended. An Area Board will now pay the area fuel cost for what is generated in its area, and on imported energy either the average fuel cost of the imported energy plus an allowance for transmission cost, or the area fuel cost, if this is less.

The authority and the Area boards have been able to provide a substantial proportion of their capital requirements (one-third in 1955-56 according to the authority's last published report) from their internal resources; but they have naturally also had to borrow large sums externally in order to carry out a very large construction program needed to meet wartime arrears and consumers' demands for new and increased supplies of electricity.

BOTH the authority and the Area boards have power to borrow temporarily by overdraft or otherwise, but only the authority can exercise the power of funded borrowing; that is, by the issue of stock. Such stocks can be, and in practice in every case have been, guaranteed by the British Treasury. The total amount which the industry can raise whether by temporary borrowing or stock issues is limited by statute, the present limit being £1.4 billion apart from the original compensation stock. The exercise of all borrowing powers is subject to the consent of the Minister and approval of the Treasury; and this, combined with the Treas-

ury guaranty, and the canalizing of borrowing through a single central authority—which naturally results in stock issues of very large sums, never so far less than £100 million—can hardly have failed to give a large measure of influence in the timing and terms of issue to the Bank of England and the Treasury.

In 1956 the government took power to make advances from the Exchequer to the nationalized boards for a period of two years and finance in this form has, for the time being at any rate, superseded borrowing by the issue of stock.

After the Electricity Bill comes into force, the Electricity Council will succeed the Central Authority as the central borrower for the supply industry. In addition, a new power is being given to the Generating Board and Area boards after consultation with the council and having obtained the consent of the Minister and approval of the Treasury to issue stock of their own but without Treasury guaranty and with the limit of £1.4 billion already mentioned. As a corollary, provision may be made by regulations for the stock of a board being a charge on the revenues and possibly the undertaking of the board issuing it and if this power is exercised it will be necessary for the regulations to determine the ranking between the charges securing stock raised directly by a board and the board's allocated share of responsibility for the stock raised centrally, which is not the subject of a formal charge on the undertakings.

THERE is provision in the act of 1947 by which the Central Authority may recover contributions from the Area boards to the expenses of the authority in regard to centrally incurred expenses, such as compensation to local authorities, payments in lieu of rates, income tax and profits tax, and the interest and capital charges on stock and temporary borrowings. The power has to be exercised on general principles settled with the approval of the Minister. A somewhat similar provision for obtaining contributions towards the expenses of the Electricity Council is contained in the Electricity Bill.

With regard to the industry's reserves and reserve funds, the Electricity Act of 1947 required the Central Authority to establish and maintain a central reserve fund to which they and the boards were to contribute such sums as the authority might determine and the Area boards were empowered to establish area reserve funds and to contribute to them to such extent as the authority might approve; and it was declared that one of the purposes of these funds was the prevention of frequent fluctuations in the charges made by the authority and the boards. The provisions were without prejudice to the power of the authority and the boards to establish appropriate reserves for replacements or other purposes; and reserves have been created under these powers.

Under the current Electricity Bill, however, the central reserve fund will be wound up and distributed, the maintenance of the area reserve fund will become a duty and not a mere power of the Area boards, and they will have a power to contribute to the fund as they shall determine. Similarly, a generating reserve fund will have to be established by the Generating Board. The Minister will have power to give directions in regard to most matters relating to all these various funds, including the making of contributions. In addition, the Electricity Council will be required to establish a central council or the Generating Board or an Area Board to discharge its obligations in regard to loan charges on British Electricity stock, Exchequer advances or any temporary loan, and for repaying any amounts that the Treasury might have been called upon to pay under its guaranty. The fund is to be fed by contributions from the boards and is not to exceed £20m. nor are the annual contributions to exceed £4m. These provisions follow a pattern provided by the Gas Act 1948.

Charges for Electricity to Consumers

THE Electricity Act contains provisions as already mentioned as to the bulk supply tariff charges by the Central Authority to the Area boards. It also contains provisions as to the retail tariff charges by the Area boards to their consumers. It will be appreciated, of course, that the surpluses made by the industry are dependent on the retail tariff charges, the bulk supply tariff only regulating the distribution of that surplus between the authority and the Area boards.

APPENDIX

Section 37 of the Electricity Act provides, with regard to the retail charges by Area boards to consumers, as follows:

> (3) Subject to any directions of the Central Authority and to the provisions of this act with respect to railways, the prices to be charged by Area boards for the supply of electricity by them shall be in accordance with such tariffs as may be fixed from time to time by them, and those tariffs shall be so framed as to show the methods by which and the principles on which the charges are to be made as well as the prices which are to be charged, and shall be published in such manner as in the opinion of the Area Board will secure adequate publicity for them.
>
> * * * *
>
> (7) Notwithstanding anything in the foregoing provisions of this section, an Area Board may enter into an agreement with any consumer for the supply of electricity to him on such terms as may be specified in the agreement:
>
> Provided that an Area Board, in exercising their powers under this subsection, shall—
>
> (a) secure that such agreements are only made in cases where the tariffs in force are not appropriate owing to special circumstances; and
>
> (b) comply with any directions given by the Central Authority, whether of a general or specific character.

There are in addition provisions under which the authority may direct the Area Board to obtain the authority's approval before exercising these powers and may also direct it to submit proposals for varying or replacing the tariffs in force at the time.

It will be noted that there is no longer any provision, as there was before 1948, setting out the methods by which the undertakers might charge, nor are there any provisions equivalent to the clauses which were applied to some of the previous company undertakings by which the dividends which they might pay were limited by sliding scale in relation to the charges which they made. Nor is there any need for the general limitations placed on previous local authority undertakers as to circumstances and extent to which they could use the net surplus earned by their electricity undertaking in aid of local rates, nor, on the other hand, for the clause which was sometimes applied to a new local authority electricity undertaking in order to prevent the undertaking becoming a charge upon the local rate fund.

But the boards are under a statutory duty to promote the simplification and standardization of methods of charge for their supply, and this was one of the heavy commercial tasks of their early years. There were naturally great numbers of different tariffs in force among the hundreds of undertakings existing in 1948 and the task of simplifying and standardizing the system was a complex one.

A committee of representatives of the authority and the boards was set up to consider the whole problem and made a series of broad recommendations which have been the basis of the tariffs subsequently introduced but there is no single system of charge which it would be appropriate to apply to all consumers throughout the country or to all classes of consumers in any area. Some tariffs have an initial block of high-priced units followed by lower-priced blocks, the size of a block perhaps depending on the number of rooms, size and characteristic of the load, floor area, or some other criterion. Some blocks are fixed. There are also two-part tariffs comprising a fixed charge (based perhaps on the floor area) and a unit charge, or a demand charge and a unit charge, subject to fuel cost variation. There are also "restricted hour" tariffs and some "time of day" tariffs.

It follows from the provisions of § 37(3) and (7) quoted above that the generality of consumers are now supplied on terms published by the boards in the form of tariffs, and supplies on negotiated contractual terms are available only in those cases where the tariffs are considered to be inappropriate to the case. The variation of tariffs may be effected without any prescribed length of notice; but it must necessarily take some time to introduce in practice, since a change can only operate in the case of existing consumers subsequently to the next reading of the consumer's meter. Moreover, the Consultative Council is entitled to be consulted

on the variation and to express its conclusions and this frequently takes some time.

Section 37(8) of the Electricity Act, 1947 provides as follows:

> An Area Board, in fixing tariffs and making agreements under this section, shall not show undue preference to any person or class of persons and shall not exercise any undue discrimination against any person or class of persons. . . .

This provision may suggest a number of questions. What constitutes a class of person? What preference is undue? What even is a preference and what rights does the provision confer on the particular consumer?

ONE material case has so far been reported and that arose in Scotland before the Scottish boards were detached under the act of 1954. One of the Area boards introduced an industrial maximum demand tariff under which basic charges of .45d and .475d per kilowatt-hour were charged to consumers supplied at high voltage and low voltage, respectively, with a fuel variation clause in each case adding .0008d per kilowatt-hour for each penny of variation in fuel cost per ton above or below 38/-. The company which subsequently brought the action was supplied at a high voltage. It therefore obtained a lower price than low voltage consumers but alleged undue discrimination against itself because the fuel variation clause was the same for both classes, although in general it is less costly in fuel to supply at high voltage than low voltage. The board subsequently instituted new tariffs which introduced a differential into the fuel variation clause in favor of high voltage consumers above a new basic fuel price of 60/- per ton, but the company maintained its complaints because the new unit prices based on coal at 60/- per ton had been calculated using the same differential in favor of high voltage supplies as had been used in the previous tariff at 38/- per ton, so that viewed on a percentage basis the differential for high voltage supplies was lower than it had been in the original tariff. The company also claimed that, as it was a high load factor consumer at the factory in question, it was entitled to be given a special agreement as it had been at another factory.

The legal questions were argued as preliminary issues.

THE judge in the first court (the Outer House of the Court of Session) considered that undue preference and undue discrimination did not mean excessive preference and excessive discrimination, but a preference or a discrimination shown or exercised for illegitimate reasons; and he dismissed the claim that the company was entitled to claim a special agreement, on the footing that the board's powers in this respect were only permissive. The latter decision was upheld on appeal, but on the first point the Inner House of the Court of Session (afterwards upheld by the House of Lords) came to the conclusion in effect that the board by distinguishing between high voltage and low voltage consumers had itself created classes which might be compared and that preference might be "undue," if the consumer could show that a charge was "much too much." A point taken by the Electricity Board, that the company was not entitled to complain at all since it was already preferred and could not claim a better preference and that preference had to be judged by comparing price, not cost, was not decided for technical reasons; and the case is still proceeding in the Scottish courts on this question and on the facts.

The consumer was held in this case to be unable to claim a special agreement by legal process. But that situation is now to be somewhat modified by a clause in the Electricity Bill. Where a consumer seeks a special agreement, or the renewal or variation of an existing one, and meets a refusal from the board or an offer of terms which are unacceptable, he may refer the matter to the Consultative Council for the area, who may notify its conclusions to the consumer and the board. If the consumer is dissatisfied with its conclusions or with the failure of the board to give effect to them, he will be able to refer the matter to the Electricity Council, which, if it thinks that the consumer's grounds are established, may give the board such advice as it considers appropriate.

Supply

WE have seen that before the industry was nationalized electricity supplies

were generally given by authorized undertakers empowered to give supplies in limited areas. As electricity supply developed undertakers were authorized for more and more areas, but in some cases the authorization was comparatively recent and even immediately before vesting date there were small parts of the country (perhaps 60 square miles in the whole of England and Wales) where no undertaker was "authorized" to give supplies.

At times when no local authority, body, or person was authorized to supply electricity in a particular place it sometimes happened that somebody, nevertheless, commenced to supply. These were the nonstatutory undertakers who operated under certain disadvantages as they had no powers to break up streets or to obtain the necessary land and wayleaves compulsorily, but there were some of these operating at the time of nationalization, and there were provisions in the act whereby these nonstatutory companies could require the Area Board to take them over, and many, but not all, exercised this right.

The present scheme is that electricity supply is a monopoly service and (under a prohibition that was first enacted as long ago as 1909) it is not now permissible for anyone other than an Electricity Board to commence to supply or distribute electricity. In practice private supply is therefore limited to those nonstatutory companies which were operating before nationalization, and persons or concerns whose main business is not supplying electricity. In addition to the safeguards afforded by public accountability, the boards are subject to specific legal duties to afford supplies, as were their predecessors. They are obliged by law to lay down suitable and sufficient distributing mains for the purposes of general supply throughout every street or part of a street or along any other route within the area for which they are established upon being required to do so in the prescribed manner by six or more owners or occupiers of premises affected or by the local authority responsible for street lighting.

THERE are safeguards in that the board can require the owners and occupiers requisitioning to guarantee that they will be taking, for three years at least, a supply of energy sufficient to produce, at the Area Board's standard rates of charge, a reasonable return on the board's outlay. In a case where the board considers the requisition is unreasonable or the statutory terms should in the circumstances of the case be varied, there is a right to appeal to the Minister of Power who may determine that the requisition is unreasonable and shall not be binding or vary the terms. Further, when the board is operating distributing mains any owner or occupier of premises within 50 yards from any such main has a right to demand a supply.

Supplies to railways are in a rather special category and the provisions about them have been through a number of changes. It may be sufficient here to say that as from January 1, 1958, it will be the duty of the Generating Board—as it is now of the Central Authority—to provide in England and Wales a supply of electricity to meet the requirements for haulage and traction of railway undertakers, and supplies may not be given for that purpose by the Area boards without the Generating Board's approval. The terms and conditions are to be such as may be agreed between the board and the undertakers or in default settled by the Minister of Power and the Minister of Transport and Civil Aviation; but they must be such as, in the opinion of the board or of the appropriate Ministers, will not cause a financial loss to result to the board from the provision of the supply—a safeguard presumably against one nationalized industry subsidizing another.

The Industry as a Purchaser of Plant

As one of the most rapidly expanding businesses in the country, the electricity supply industry is naturally a very heavy purchaser of plant and its interests require the existence of adequate and suitable manufacturing capacity to meet its requirements. Joint committees with associations of plant manufacturers were set up comparatively soon after nationalization for discussion of matters of common interest. From these there have emerged, among other things, on the legal side a number of sets of standard conditions of contract with regard to the supply, or supply and erection, of plant which have served the purpose both of reducing discussion and negotiations on in-

dividual orders and of providing the boards with the essential basis on which tenders received can be compared.

By the Electricity Act of 1947 the authority was given the power to manufacture electrical plant and electrical fittings. It has not exercised this power to any great extent, or at all as respects heavy plant; and for the future it is proposed in the Electricity Bill that the manufacturing power of its successors, the Central Electricity Generating Board, should be curtailed and limited to the manufacture of what may be required by any board for the purposes of research or development or for the repair or maintenance of its equipment. Parliament appears to have considered that the more extensive power is no longer required as a protection against combinations of manufacturers by reason of the passing of the Restrictive Trade Practices Act 1956—a measure under which many forms of restrictive agreements and arrangements are liable to be brought before a Restrictive Trade Practices Court for consideration of the question whether they are to be considered contrary to the public interest and consequently to be restrained. It may be sometime yet before the first cases reach the court for hearing and extensive discussion is not practicable in this paper.

Labor Relations

By § 53 of the Electricity Act of 1947 the Central Electricity Authority was put under the duty—which since 1955 has become a duty on them jointly with the two Scottish Electricity boards—to seek consultation with any appropriate organization (in other words, trade unions) with a view to the conclusion of agreements for the establishment and maintenance of machinery for

(a) settlement by negotiation of terms and conditions of employment of persons employed by Electricity boards, with provision for reference to arbitration in default of such settlement in such cases as might be determined by or under the agreements, and

(b) the promotion and encouragement of measures affecting the safety, health, and welfare of such employees and the discussion of other matters of mutual interest to the board and those employees including efficiency in the operation of the services of the board.

The Area boards are to be consulted before agreements are made under this provision and are under a duty to comply with them when concluded, and the Electricity Bill of 1957 will make no great change in the provision, the duties of the Central Authority in this respect passing to the Electricity Council.

Section 53 followed a pattern that was common to most of the nationalization acts of 1946 to 1949; but the application in the different industries has naturally varied. In giving effect to § 53 in the electricity supply industry, the Central Authority elected to have separate machinery under (a) and under (b).

With regard to head (a)—the negotiating field—machinery had existed before nationalization for manual workers and for technical staff. But there was now much more to be covered and five negotiating bodies were set up. In the case of the manual workers, the authority entered into an agreement with five appropriate trade unions for the setting up of a National Joint Industrial Council, consisting of members appointed by the authority and the other Electricity boards on the one side and by the unions on the other. The main duty of this council is that indicated in (a) above; and it has entered into agreements governing the terms and conditions of employment of the manual workers in the industry. Resolutions of the council require a majority of each side voting separately. At the second level of the structure there is a district council for the geographical area of each Electricity Board (but dealing also with the authority's employees within that area), with members similarly appointed by boards and trade unions and with the duty to ensure that the terms and conditions settled by the National Council are observed in the area, and *(inter alia)* to submit disputed matters to the National Council where necessary and to forward matters for discussion to the National Council wherever appropriate. At the third level there are Works committees for the

various units into which the undertakings are divided for purposes of organization, consisting of representatives appointed by the boards and representatives elected by the manual workers. The functions of the Works committees correspond in a number of respects to those of the District councils and also provide machinery for inquiry into differences and for the investigation of grievances. The manual workers' representatives on these committees are elected from members of the unions who are parties to the agreement but they represent the employees as a body and not merely their own members. The boards as employers do not force any man to join a union, although union membership is encouraged.

ONE of the principal purposes of machinery of this sort is naturally the avoidance and settlement of disputes without the necessity for resort to strikes and lockouts. Disputes arising at local level, for instance, are submitted to the district body for settlement, failing which they are submitted in turn to the National body. If there is failure to agree in the National body the dispute may be submitted to the Industrial Court established by Parliament in 1919 for industrial arbitration, or to an independent arbitrator agreed on between the two sides of the negotiating machinery. There seems little doubt that in general the machinery has worked very smoothly.

A generally similar pattern of organization is adopted for the clerical and administrative staff and for technical staff (without the third tier). There is a simpler form of organization for managerial and higher executive staff and for building trade employees. All these five negotiating machines extend to Scotland as well as England and Wales, so that wages and conditions of service are negotiated nationally for the industry. Together the five schemes cover all employees except in a relatively small number of the highest-ranking posts.

The variety of subjects indicated in head (b) above is covered by slightly different machinery—usually referred to as the advisory or consultative machinery. By agreement between the Central Authority and the two Scottish boards on the one hand and the same ten trade unions or associations which are parties to the agreements for the negotiating machinery on the other, there has been set up two National Joint Advisory councils, one for England and Wales and one for Scotland, with liaison maintained by a member being appointed by each of the two councils to sit on the other. The councils have nothing to do with negotiation of wages or terms of employment and their essential function is to make recommendations to the boards on the subjects within their fields. These are wide enough to cover virtually the whole of the activities of the boards concerned and, to take a sample, include such diverse matters as safety rules, training of apprentices, training of graduates, investigations into occupational health, a scheme dealing with the patents position of employees with regard to inventions, canteens, first aid, drama competitions, and much else.

EMPLOYEES generally are represented on the councils but the decisions reached are advisory and not mandatory to the boards concerned. Every endeavor is made in conducting the business of the councils to avoid "sides" and the advisory decisions are reached so far as possible by general agreement and so recorded. There is a second tier in this advisory machinery in England and Wales but not in Scotland, in the form of District Joint Advisory councils and in both countries the bottom tier consists of local advisory committees corresponding to the units of the different organizations of boards and composed, once more, of appointed representatives of the boards and elected representatives of the employees.

The representation of the employees on the National and District Advisory councils is provided primarily by the officials of the unions or associations concerned. But by some comparatively recent amendments provision has been made for a number of members selected from the local advisory committees to sit on the District councils and a number of members of the District councils to sit on the National councils. This will no doubt tend to spread knowledge and understanding of the working of the higher level machinery.

These bodies do not often provide specifically legal problems but they have been mentioned at some length because their tiered constitutions have been drawn up with some care and they are the direct outcome of the

statutory duty imposed by the Electricity Act.

Consent Procedure for the Construction Of Works

WITH a rapidly expanding electricity supply industry the legal conditions to be complied with before construction of new works can be undertaken are of great importance; and since the works must at times involve interference with the ownership and enjoyment of the property of people great and small it is not unnatural, in a thickly populated island, that they have become matters of public attention and concern. For these reasons it may be of interest to see how the electricity supply industry now stands in relation to these legal requirements, although they do not derive specially from the laws which brought about the nationalization.

The days are gone when a town planning scheme did not apply to the land of statutory undertakers except with their consent; and now the carrying out of any building, engineering, or other operations in, on, over, or under land, or the making of any material change in the use of any buildings or land is (with comparatively minor exceptions) "development" for which a specific planning permission is required under the Town and Country Planning acts. We shall refer to three main classes of construction, which fall under somewhat different procedures:

(a) Power Stations

THE authority cannot construct a new power station or extend an existing one without obtaining the consent of the Minister of Power under the Electricity Supply legislation as well as the permission required under the Town and Country Planning acts; and from this derive much work and negotiation for the authority. Those of our hearers who themselves advise electricity undertakers will be aware of the *desiderata* for a power station which in any case limit the number of possible sites—suitable subsoil, satisfactory access for construction, sufficient water, ready means of transport for fuel, suitable situation in relation to centers of electrical load. Nor will it be a matter of surprise that it has then to be considered whether there may be possible objections on a variety of grounds—such as defense, flying requirements, mineral working restrictions, fishing interests, water supplies, planning and amenities, national parks, and the like—which have to be considered and disposed of with government departments and other authorities and interests concerned before the matter can usefully proceed. When that is over and the formal application to the Minister of Power is made it has to be accompanied with full particulars of the project. All this in the nature of things is well in advance of actual construction. Except in case of minor extensions the authority has to give notice to the local authority (and, from next year onwards, also to the Local Planning Authority) and notice to all owners and lessees within 300 yards of the site and all these must have an opportunity to state objections. The authority by arrangement also consults the Royal Fine Art Commission on design and architectural appearance.

The Minister may, and often does, hold a public inquiry at which all interested parties can be heard and it is not usual to exclude anyone wishing to be heard. Much explanation and negotiation between the authority and objectors and other parties are liable to be involved.

THE inquiry normally takes the course, familiar to the lawyer, of a statement of the authority's case with supporting evidence, examination, and cross-examination, and a statement of the objections, possibly with evidence which will also be the subject of examination and cross-examination. The range of subjects is not limited in practice, the object being to inform the Minister of whatever objections there may possibly be to the scheme. The Minister is, of course, discharging an administrative or policy-making function, rather than acting in a judicial capacity—a matter perhaps not always appreciated but, of course, not implying any disregard for the reasonable protection of the interests of the persons and bodies concerned. It has not been the practice for the report to the Minister by the inspector who holds the inquiry to be published: That no doubt has, or will have, received consideration by a governmental Committee on Administrative Tribunals and Inquiries, which

is now considering such subjects under the chairmanship of Sir Oliver Franks.

If the Minister considers that consent shall be given, he is authorized to give permission under the Town and Country Planning legislation as well as under the Electricity Act although the former is normally a matter for a different Ministry. Various conditions are commonly attached to the consents, the most notable of which—apart from conformity to the proposals—is that which requires the prevention as far as reasonably practicable of the emission of smoke and grit and the avoidance of noise and vibration. There are often other special conditions.

If the land required cannot be acquired by agreement—or sometimes if it is necessary to override restrictive covenants which limit the use of the land—it may be necessary for the authority to make a compulsory purchase order and submit it to the Minister for confirmation. Not infrequently an inquiry for this purpose is combined with the inquiry into the power station consent, thereby avoiding some duplication of objections and possibly saving a little time.

It is, of course, only when consent has been obtained that construction can proceed or that contracts in general can finally be placed.

In some cases other consents are needed. If the station is on a river, it may be necessary to obtain consent of the River Board to bring into use a new or altered outlet for effluent or to begin a new discharge. Conditions may be imposed as to the point of discharge, as to the construction or use of the outlet, or to enable the River Board to take samples of the effluent, and, in the case of a new discharge, as to the nature, composition, temperature, volume, and rate of discharge. It will be appreciated that conditions with regard to temperature of the water return may have serious effects on the economics of generation.

If the station is on the coast or on an estuary, the consent of the Minister of Transport and Civil Aviation may be needed under the Coast Protection Act for any works below high watermark. If water is required otherwise than from the statutory water undertakers it may be necessary to obtain a license from the Minister of Housing and Local Government for the construction or extension of a well or bore hole. Closing a footpath may necessitate one of several statutory procedures for that purpose. Consents or orders are also occasionally required under the various legislation relating to light railways, drainage of trade premises, or to height of buildings in London.

The procedure under these various laws with due regard to the legitimate interests of members of the public may take no small part of the time involved in the construction of the station from planning to completion.

(b) *Overhead Lines*

Here there are two requirements, in addition to the planning permission. First, apart from service lines and lines on the property of an Electricity Board, no electric line may be erected overhead without the consent of the Minister of Power (often referred to as the "§ 10(b) consent"). Taking the boards as a body there will be something like 10,000 applications for such consent every year.

The Minister must give the local authority and the local planning authority and, in certain cases, the county council an opportunity to be heard; and, as in the case of power stations, he can give consent for the purposes of the Town and Country Planning legislation as well as under the electricity supply legislation.

The second requirement (which we refer to as the "wayleave consent") is the consent to carry the line over the property of the owner or occupier. This is obtained in most cases by agreement on terms embodied in a wayleave agreement or consent, providing *(inter alia)* for the payment of compensation for interference with agriculture at specified rates (a scale has been agreed with the National Farmers' Union and the Country Landowners' Association) and compensation for damage, and putting on the board the responsibility for the consequences of the erection of the line.

But if the owner does not agree and does not give his consent, or attaches conditions to which the Electricity Board objects, it may be necessary to take further measures. In the case of "any land other than land covered by buildings or used as a garden or pleasure ground, in cases where the placing

of such lines above ground is otherwise lawful . . ." application can be made to the Minister who, if he thinks just after giving all parties concerned an opportunity of being heard, may give his consent either unconditionally or on terms and conditions and stipulations (including possibly the carrying of part of the line underground). In coming to his decision the Minister must have regard to the effect on the amenities and value of the land of placing the line in the manner proposed. The compensation payable is not assessed by the Minister but by the Lands Tribunal, a body created to deal with this sort of case.

It has been held that the words "otherwise lawful" relate to direct infringement of some statutory right or some obviously wrong and illegitimate use of a power and not to the private rights of an individual given, for example, by a restrictive covenant preventing the erection of structures on an owner's land for the benefit of some other land.[2]

In cases of land with the exception of buildings, gardens, or pleasure grounds, the procedure for a wayleave consent is not available and where necessary the board will have to seek a compulsory purchase order. This will generally be for the acquisition of a right to place the line compulsorily but in some cases might be for acquisition of the land itself.

Normally wayleave consents granted by individuals incorporate consent to such matters as tree felling and lopping but in other cases the rights obtained under the wayleave consent may still not be enough in themselves. In the latter cases if trees or hedges will obstruct or interfere with the line the board may give the owner or occupier notice to lop or cut, subject to their paying the expenses.

In default they may do the work themselves or, if the owner or occupier objects, the matter may be referred to the Minister; and the Minister, after giving the parties an opportunity to be heard, may make such an order as he thinks just. If the Minister decides in the board's favor, his order may empower the board, after notice, to do the lopping or cutting and it may determine the compensation resulting.

Now it will be apparent that apart from the basic merits or demerits which may cause applications for consents in respect of overhead lines to be granted or refused, the conjunction of the two requirements which we have mentioned may create a certain difficulty; for if the Minister has granted a § 10(b) consent to the course of a line to be placed overhead, even if its position be only specified within certain permitted limits of deviation, he may seem to have little scope for meeting objections raised by owners or occupiers to the construction of the line in a particular position when the board applies for the wayleave consent. This was foreseen and provided for in the Electricity (Supply) Act 1926 by a provision which enabled the undertakers when making application for the § 10(b) consent to serve notice of their proposals to acquire a wayleave consent and allows the Minister to proceed concurrently under the two procedures. But in the case of the modern high-tension transmission lines, such as the 275-kilovolt supergrid lines which proceed across country for many miles without a break, the original proposal for the siting of the line may prove very contentious and it would be unreasonable, and wasteful of effort, to perturb all the owners and occupiers of property possibly affected by the line with applications for wayleave consents, which may never be required if the course of the line is not approved for the § 10(b) consent.

It was no doubt in view of this situation that provision was put in the Electricity Bill of this year enabling the Minister not to proceed with applications for a § 10(b) consent until the board has taken action in regard to the wayleave consent under the concurrent procedure allowed by the act of 1926; or if the Minister does not think it to be a case for proceeding concurrently—as presumably he might not in case of one of the longer lines—he may give his § 10(b) consent subject to a condition that the work is not to proceed without his permission and in determining whether to grant this he is to have regard to the extent to which way-

[2] National Trust for Places of Historic Interest or Natural Beauty *v.* Midlands Electricity Board (1952) 1 All ER 298.

NOTE: In respect of lines laid underground, the procedure for obtaining a wayleave consent is similar, but the exception as to land covered by buildings or used as a garden or pleasure ground does not apply.

leaves have by then been agreed or, if they have not, to the prejudicial effect which the giving of his permission might have on subsequent proceedings relating to the outstanding wayleaves.

THIS provision is perhaps symptomatic of uneasiness which appears to exist in the mind of some of the public in regard to the grid transmission lines, particularly the 275-kilovolt lines of the supergrid. The authority has in more than one case recently encountered physical opposition to the completion of its works where the right to erect the line has already been granted and in one such case, which obtained some notoriety, actual interference with the structure of the pylon, which resulted in its partial collapse and led to a prosecution for malicious damage to the pylon, as well as civil proceedings which are still in progress.

It is difficult to say whether this small crop of difficulties is due to the extension of the high tension system, to the growth of the population and the diminution of the countryside, to the fear of the "overmighty subject" represented by nationalized industries, or to the almost inevitable deferment of the settlement of compensation claims by owners and occupiers for physical damage until the construction of the line actually shows the extent of the damage suffered or just the natural human desire to "have one's cake and eat it"—to enjoy the benefits of electricity without seeing the means of transmitting it. But the fact that such cases occur may in itself be of interest.

(c) Substations

THERE is no specific requirement for the consent of the Minister of Power to be obtained but permission has to be obtained from the Planning Authority under the Town and Country Planning acts in respect of buildings and for most engineering works not on operational land of the board. Projects of this kind are normally a matter of advance consultation with the Local Planning Authority before formal application is submitted. In the event of permission being refused or unacceptable conditions being attached, it is open to the authority to carry an appeal to the Minister of Housing and Local Government. In most cases the Minister would hold a local inquiry (jointly with the Minister of Power in the case of development on operational land of the board) on the same general lines as inquiries in connection with power stations.

(d) Generally

IN regard to both consents for power stations and consents for overhead lines, the Electricity Bill is making some additions to the present law. In the interests no doubt of not only doing justice but letting it be seen that justice is done, it is to be provided that, if the local Planning Authority notifies the Minister that it objects to an application a public inquiry is to be held unless the Minister proposes to meet the objection by the conditions of his consent, and where an inquiry is to be held notices by advertisement and otherwise are to be given in such manner as will secure that the proposal is sufficiently made known to persons in the locality. Some additional provisions on the same subject are likely as a result of Parliamentary discussions which have not been completed at the date of this paper.

The erection of major works of any sort commonly raises the question of amenity; and although this is a matter in which the supply industry of our country appears to be at least as well advanced as others, it is a matter on which a wish for public assurance is at any rate understandable. The Electricity Bill of this year is to provide that in formulating or considering any proposals relating to the functions of the Generating Board or any Area Board (including any general program for reorganization or development settled with the Minister), the board in question, the Electricity Council, and the Minister, "having regard to the desirability of preserving natural beauty, of conserving flora, fauna, and geological or physiographical features of special interest, and of protecting buildings and other objects of architectural or historic interest, shall each take into account any effect which the proposals would have on the natural beauty of the countryside or on any such flora, fauna, features, buildings, or objects." The language of that provision seems to recognize the necessity to balance the desire for amenities with the need for an economical system of electricity supply which lies at the heart of the difficult.

Nuclear Power

THE nationalized electricity supply industry is now at a most interesting point of development, partly because of the alterations which are being effected by the current bill and even more by the development associated with nuclear power. The initial responsibility in this country for the development of the peaceful uses of nuclear power has rested since 1954, under directing powers of the government, with the Atomic Energy Authority, a separate statutory body empowered to produce, use, and dispose of atomic energy and to carry out or arrange for research and to educate and train persons in matters connected with atomic energy and radioactive substance. It is as a result of their research and development and training work that the Electricity Generating authorities—at present the Central Electricity Authority and the two Scottish Electricity boards—are now able to embark on the erection and operation of nuclear power stations to form part of the electricity supply system. It will be well known to our hearers that the British government announced a provisional program, which was accepted by the Electricity authorities, for the construction of nuclear power stations in February, 1955, and a revised and extended program in March, 1957. The latter contemplates the erection by 1965 of nuclear power stations of a total capacity of about 6,000 megawatts and perhaps up to 19 in number.

These projects are of outstanding importance from the national point of view and also from the point of view of the electricity supply authorities on whom the financial responsibility arising from the projects will rest. From the narrower standpoint of this paper there is at the moment little that can be said, since neither the electricity supply legislation nor the decisions of the courts have yet afforded material for legal discussion in this field.

Public inquiries have already been held with regard to two proposed nuclear power stations in England—Bradwell (Essex) and Hinkley Point (Somerset)—and in the south of Scotland with regard to an intended station at Hunterston, and the Minister's consent for these two English stations and another at Berkeley (Gloucestershire) has been given and construction of the Gradwell and Berkeley stations has begun.

Conclusion

WE have tried in this paper to indicate some of the features of the process of nationalization in the electricity supply industry and some of the points of legal attention or interest which have resulted. But needless to say, the real problems and achievements of the industry since 1948 do not lie within the field of law. It is in such matters as the overtaking of the arrears resulting from wartime interruption of construction and postwar increase in consumption, the improvement of efficiency of plant, the extension of the supply system both in town and country, the economies resulting from central financing, the simplification of tariffs, the relative cheapening of supplies, and the work done in the training and education of employees and in the improvement of human relations within the industry that the effects of nationalization and of the efforts of the postwar years are to be seen. These, however, are subjects for other occasions.

We do not doubt their lies before the industry now a period of great interest and great possibility, to the challenge to which we believe it will respond.

The Control of Public Road Transport in Great Britain

By S. D. HERINGTON*

THIS paper is concerned with the legislation and administrative methods by which public road transport in Great Britain is regulated or controlled. To understand the present regulations and methods of control it is necessary to consider the reasons why Parliament has sought to regulate or control road transport and that inevitably leads to a review of past conditions and earlier legislation.

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APPENDIX

This paper is concerned with public road transport; that is, the carriage of passengers or goods by road for hire or reward. It is, therefore, concerned mainly with omnibuses and coaches, or public service vehicles, as they are now called in our legislation, taxis, and lorries or trucks, as I believe they are generally called on the other side of the Atlantic.

Our present system seems to me to owe little or nothing to foreign precedents or experience, but to have grown up to suit transport conditions in Great Britain. Indeed, when Parliament was grappling with the problems of road transport during the last century, and again after the first World War, I doubt whether there was much experience abroad which could have been of assistance. Just as railways were invented and first extensively developed in England in the nineteenth century, so in the last thirty years a system of road passenger transport has been built up which measured in terms of miles run and passengers carried is, I dare say, unequaled in any other country in the world. In 1955 over 2,300 million miles were run by public service vehicles in Great Britain, and over 13,500 million passenger journeys were made on those vehicles.

THE history of road transport in this country, at least since the sixteenth century, is largely the story of the replacement of the older form of transport by the newer. That history is outside the scope of this paper, but it is the background against which the legislation over the centuries must be considered. Parliament in legislating about road transport has, I suppose, been primarily concerned to secure the safety of the public and to protect them from exploitation as new forms of transport were invented or developed, but it has also at times sought, with varying success, to protect the older forms from competition by the newer, and in recent legislation to secure the co-ordination of all forms of transport.

The chosen instrument of control has long been the license. Indeed, as long ago as 1662 an act was passed for regulating and licensing hackney carriages in London and by an act of 1694 commissioners were appointed to license hackney carriages in the cities of London and Westminster, and stagecoaches throughout the United Kingdom. Not more than 700 hackney carriages were to be licensed, horses were not to be less than 14 hands, rates for hackney carriages were fixed, and the commissioners were empowered to make bylaws. Thus as early as the seventeenth century Parliament was attempting to control the new forms of transport, and to protect the public from danger or exploitation.

During the eighteenth century public passenger transport by road was provided by the stagecoach and the hackney carriage. The stagecoach was put out of business by the railways in the early nineteenth century. The hackney carriage still survives, although it has lost its horse and is now generally called a taxi or a cab.

IN reviewing our legislation I am struck by the fact that it seems so often to have lagged so far behind invention. Illustrations can no doubt be found in the early railway legislation, but that is outside the scope of this paper. The Locomotive acts of 1865 and 1878 may be cited as illustrations applicable to road transport. Those acts limited the speed of locomotives on roads to four miles per hour or two miles per hour in towns and villages and required every locomotive to be accompanied by three attendants of whom one should "precede the locomotive on foot by not less than 60 yards (reduced to 20 yards in 1878) carrying a red flag constantly displayed."

Those precautions may well have been justifiable for steam engines and steam coaches in 1865, and Parliament could hardly have been expected then to have foreseen the development of the internal combustion engine, but motor vehicles were not exempted from those restrictions until 1896. Again under orders made under the Tramways Act 1870, tramway undertakers were required to maintain the road between the tram rails and for 18 inches on each side. I believe that the justification for that provision was the damage caused to the roads by the horses drawing the trams, but the same obligation was imposed in relation to electric trams and is still in force in 1957. It may be a surprise to some not familiar with our legislation that the general speed limit for omnibuses and coaches was 12 miles per hour till 1928, when it was raised to 20 miles per hour, and that the public service vehicle is still restricted

to a speed of 30 miles per hour, not only in urban areas, but everywhere. Busmen certainly regard that restriction as long obsolete, having regard to the high standard of efficiency attained by the modern omnibus or coach.

ONE of the characteristics of our transport legislation is that Parliament has so often preferred to apply existing statutes to new forms of transport, rather than to legislate afresh, with the result that statutes have remained in force long after the transport, to which they originally applied, has become obsolete, and have been made to apply to forms of transport unknown when they were passed. Thus some of the provisions in the Stage Coach Act 1832 and the Railway Passenger Duty Act 1842 remained applicable to motor omnibuses until the Road Traffic Act 1930 came into force, and still have a limited application to trams and trolley vehicles, at least outside London. But a more striking example is that until 1931, when the act of 1930 came into force, omnibuses outside London continued to be licensed under an act of 1847, as applied to horse-drawn omnibuses in 1889. It is necessary to say something about those acts by way of explanation of the conditions which led to the passing of the act of 1930.

As I have said, an act for licensing and limiting the number of hackney carriages was passed as early as 1694. Under that act a license fee of £50 and an annual fee or tax of £4 was chargeable. Certainly, hackney carriages were not encouraged in the seventeenth century. Indeed before licensing was adopted unsuccessful attempts were made in 1635 and 1660 by proclamation to prohibit hackney carriages from plying for hire in the streets of London and Westminster. However, as has happened in our own time with motor omnibuses, so after hackney carriages were introduced into London in the seventeenth century and one proprietor showed that good business could be done by standing them in the street for hire, many others followed his example with the result that the number grew so fast that they were considered a nuisance in the streets of London and Westminster. I have read that one reason for the attempts to restrict numbers and the high license fees was the damage which the hackneys caused to the streets and another may well have been that they were putting the sedan chair and the Thames watermen out of business. However, whatever the intention of Parliament, the hackney carriage, in spite of restrictions and high fees, survived and apparently multiplied during the eighteenth century.

AFTER the first Reform Act, a number of "Clauses" acts were passed; that is, acts which sought to codify or standardize the statutory powers granted to boroughs and to canal, port, and railway companies and authorities by local or private acts of Parliament. One of many "Clauses" acts passed in the 1840's was the Town Police Clauses Act 1847, "an act for consolidating in one act certain provisions usually contained in acts for regulating the police of towns." The act applied only to towns where it was incorporated in a local act, but under an act of 1875 was applied to all boroughs and urban districts and could be applied to rural districts. The act contained a number of provisions which are still in force, for preventing the obstruction of streets or annoyance or danger to the residents or passengers, covering such diverse offenses as riding on the shafts of a wagon, owning any unmuzzled ferocious dog, loitering and importuning passengers for the purpose of prostitution, or using profane or obscene language. For present purposes the relevant provisions, which were no doubt based on provisions commonly contained in earlier local acts, are some 30 sections as to hackney carriages. Under those provisions commissioners appointed by the local act were empowered to license "such number of hackney coaches or carriages of any kind or description adapted to the carriage of passengers as they think fit" to ply for hire within the prescribed distance from the general post office in the town or district to which the local act applied. Those powers are now exercisable by the council of the borough, urban or rural district where the act is in force.

The act further empowers local councils to license drivers of hackney carriages, and to make bylaws fixing stands for hackney carriages, fixing the rates or fares to be charged, regulating the number of passengers to be carried, and other matters, and imposes penalties for using or driving a hackney carriage without a license, dangerous driving, overcharging, etc.

APPENDIX

THESE provisions are still in force outside the Metropolitan Police District. Hackney carriages in the Metropolitan Police District and the city of London are subject to a long series of acts beginning with the London Hackney Carriage Act 1831 which repealed parts of no less than 26 acts passed during the preceding 120 years. The nineteenth century acts under which taxicabs in London are licensed and controlled have been described as "anachronistic as the horse cabs which called them into being."

I have easily persuaded myself that it is not necessary for the purposes of this paper to delve into that statutory labyrinth. Suffice it to say that the system of licensing in the metropolis is not different in principle from the system in force outside London, except that in the metropolis the powers of licensing hackney carriages have been vested since 1869 in the Home Secretary and are exercised by the Commissioner of Police, and the Commissioner of Police has been responsible since 1850 for the licensing of drivers and appointing stands for hackney carriages. Fares have long been fixed and are now regulated by the Home Secretary. By regulations made under an act of 1907 London cabs were first required to be fitted with taximeters. Since 1853 it has been necessary for the applicant for a hackney carriage license in London to submit his vehicle for inspection and obtain a certificate of fitness from the Commissioner of Police. The conditions of fitness now in force are prescribed under an Order of 1934 and are designed not only to ensure the safety and convenience of the passengers but also the maneuverability of the vehicle in London traffic, for example, by requiring a 25-foot turning circle.

THE stagecoaches, which are so familiar to readers of Dickens, greatly developed in the eighteenth century and still more with the improvement of the roads in the early nineteenth century. Indeed the Stage Coach Act 1832, already referred to, repealed parts of 10 acts passed between 1785 and 1823 and made comprehensive provision for the licensing and regulation of stagecoaches, but within a few decades the stagecoach had been made obsolete by the railways, and in the towns the horse-drawn omnibus was appearing as a new competitor for the hackney carriage. In fact the first horse-drawn omnibus ran between Paddington and the Bank in 1829 and the number of omnibuses in use in London steadily grew in the 1840's and 1850's. In the absence of any efficient control over routes or frequencies, there was great rivalry between competing operators, just as there was with the uncontrolled growth of motor omnibus services in the 1920's, with the familiar complaints of racing, "piracy," and fare cutting. No doubt the public suffered from the nuisance of ill-regulated services, as they did in the 1920's, and the operators were forced to form associations to protect their members and beat their rivals. The London General Omnibus Company, Ltd., one of the predecessors of the London Transport Executive of today, was formed in 1858.

Stage carriages in the metropolis were licensed under one or other of the series of acts already referred to applying to hackney carriages in the metropolis, and those acts were in 1907 applied to motor vehicles.

PROVISIONS for the licensing of stage carriages outside London was made by the Town Police Clauses Act 1889. Following the characteristic of our legislation, which has already been noted, that act did not attempt to make new provision for omnibuses, but instead applied certain provisions of the act of 1847. As a result omnibuses were, until the Road Traffic Act 1930 came into force, licensed outside London in the same way as hackney carriages. In short, the licensing authority was the council of the borough or urban or rural district. But the act did not apply in most rural districts and the powers were not in fact exercised in many urban districts. Even the local authorities, who exercised their powers, were able only to control omnibuses, which plied for hire within their respective districts.

There was much abstruse law as to what constituted "plying for hire" or "plying for hire in a street." A hackney carriage might take up passengers on private property without a license but it was held that an omnibus could not. A vehicle, which picked up passengers who booked their seats and paid for their tickets at a booking office, was not plying for hire, but it was, if the passengers booked seats at a stopping place, after the vehicle had started on its journey. If a passenger holding a return ticket issued by the op-

erating company outside the district was picked up within the district, the omnibus was not plying for hire within the district, but it was if the ticket was available for a return journey from a place within the district on any bus of an association of omnibus proprietors. The licenses applied to the district of the licensing authority, and so afforded no means of control over the omnibus passing through the district.

More important still, the long-distance services, which rapidly extended after the First World War, might pass through scores of districts. In some of those districts there would be no licensing control, and where there was, the requirements of the licensing authorities differed from district to district and were frequently inconsistent. It was very doubtful whether licenses could be granted subject to conditions and it was held in 1919 that licensing authorities had no power to fix omnibus fares. Above all, the vehicles and not the services were licensed. Licensing authorities, therefore, had no effective means of regulating routes, frequencies, timetables, or fares. Penalties for plying for hire without a license were so ineffective, that one operator is recorded as continuing to ply for hire with his unlicensed vehicle notwithstanding 62 convictions in six months. Briefly, the operators whether of omnibuses or trams, and the railway companies, had no adequate protection from uneconomic competition, and the public suffered, because services were so often irregular and inadequate and omnibus fares were virtually uncontrolled.

A further grave defect of the system was that many of the local authorities, which were licensing authorities, were also themselves operating systems of tramways or omnibuses. It was almost impossible for them to exercise their licensing powers fairly and impartially in respect of licenses for omnibuses to operate in competition with their own services. There was a right of appeal from decisions of the licensing authorities to the Minister of Transport under the Roads Act 1920, but no right of appeal could remedy the inherent defects of the system.

Not only was the system of licensing, devised as it was to control hackney carriages and subsequently applied to short stage local horse-drawn omnibuses, quite unfitted to regulate the services of motor omnibuses which were rapidly expanding after the first World War, but the system of control by local bylaws over the construction and equipment of omnibuses was quite inadequate and unsuitable to secure the safety of the public or the provision of efficient and up-to-date vehicles. A system of local inspection and approval of horse-drawn omnibuses and their equipment may have been adequate in 1889, but it was quite unsuitable for modern motor vehicles. The efficiency of motor omnibuses rapidly increased during and after the First World War as the result of continuing improvements in design and construction. Neither the local authorities nor the police had the necessary staff or facilities to examine and test modern vehicles. Operators of long-distance services passing through several licensing districts found the requirements of one district different from or even inconsistent with the requirements of another.

These briefly were the problems considered by a Departmental Committee on the licensing and regulation of public service vehicles, which reported in 1925, and a Royal Commission appointed in 1928 to consider the problems arising out of the growth of road traffic, and to consider and report what measures should be adopted for the better regulation and control of transport in Great Britain, and to promote the coordinated working and development of all available means of transport. The Road Traffic Act 1930, under which the system of licensing in operation today was introduced, was the result of the work of the Departmental Committee and the Royal Commission.

The Departmental Committee found that in England and Wales, outside the Metropolitan Police District, licensing powers under the acts of 1847 and 1889 were possessed by 79 county borough councils, 246 noncounty boroughs, 721 urban district councils, of which some did not exercise their powers, and 51 out of 653 rural district councils. In Scotland, the large cities, under their local acts, had considerable powers of licensing; the smaller burghs had certain powers, but in many instances they were not exercised; and the county councils had prac-

tically no powers. The committee recommended that licensing powers under the new system, which they recommended, should be vested in the county councils, and the larger local authorities. Under their proposals there would at that time have been some 300 licensing authorities in England and Wales.

THE Royal Commission made much more radical proposals. The following extracts from its report indicate the conditions upon which its recommendations were based:

> As modern road passenger transport has grown to such importance . . . the present chaotic system of licensing, which is based upon obsolete laws passed long before mechanical traction existed, must disappear and be replaced by an entirely different system more suited to present-day needs.
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> . . . The evils of the present system, or lack of system, are patent to the casual observer. First, the public service vehicle of today operates over large areas which bear little or no relation to the relatively small areas of existing licensing authorities. . . . Secondly, although there are over 1,300 licensing authorities in Great Britain, in many parts of the country there is no such authority at all. Even in those areas where licensing laws may be put into operation, we are very doubtful whether in certain cases the licensing authorities exercise their powers as fully as they might. As a result, almost anybody can obtain a license somewhere or else, owing to inadequate penalties, it may be profitable for a proprietor to operate unlicensed vehicles in spite of the fines inflicted for this breach of the law. It follows that in many places the congestion of the roads is increased by unnecessary vehicles which, by running just in advance of regular services and tapping their traffic, render them unremunerative. In order to do this, racing and cutting in take place to the serious danger of the public. Further, by skimming the cream off the best-paying routes they prevent the regular operators from providing services on less remunerative routes, thereby depriving a section of the public of convenient facilities. In circumstances such as these it is obvious that no sort of co-ordination of transport is possible. . . . A third objection to the present system is that many local authorities are themselves owners and operators of transport. . . . There can be no doubt that when functioning as licensing authorities, their actions are suspect to many of their competitors.

Accordingly the Royal Commission recommended that all local authorities in Great Britain should cease to be licensing authorities; that instead England and Wales should be divided into some ten traffic areas and Scotland into four; and that traffic commissioners for each area should be appointed by the Minister of Transport with the duty of licensing and regulating public service vehicles in their respective areas. Those recommendations were accepted in principle and embodied in the Road Traffic Act 1930. There are now 10 traffic areas in England and Wales and two in Scotland.

UNDER the Road Traffic Act 1930, three traffic commissioners for each traffic area were appointed by the Minister of Transport, of whom one is a full-time chairman, one is appointed from a panel nominated by the county councils, and one from a panel nominated by county boroughs and urban districts.

Perhaps the most fundamental innovation made by the act of 1930 was that whereas under the old system the vehicle alone was licensed, now the service must also be licensed. Under the old system of vehicle licensing, it was impossible effectively to control the frequency or timetable of the service or services on which the licensed vehicles might be used. Indeed, it is difficult to see how any system of vehicle licensing can effectively control and regulate modern bus services. The operator of a group of services today does not, generally speaking, provide vehicles specially for particular services. If he did so, his costs would be prohibitive. What he does is to maintain the whole group of services with the minimum number of vehicles. To put it another way, if a fleet of vehicles is to be used with maximum efficiency, there must be the maximum flexibility in the use of the fleet. If vehicles were licensed to be used only on particular services, the flexibility and so the efficiency of the fleet would be impaired. Elsewhere in the Commonwealth I have had experience of the practical working of a system of vehicle licensing applied to modern omnibus and

coach services, and I have seen how inefficient it is.

THE act of 1930 therefore provides for the issue by the traffic commissioners of two types of licenses, the public service vehicle license and the road service license. The public service vehicle license, in effect, does no more than approve the holder as a fit and proper person to use the licensed vehicle as a public service vehicle. It is not granted until a certificate as to the fitness of the vehicle has been issued by one of the certifying officers appointed by the Minister. A certificate of fitness may be revoked or suspended, if the vehicle is found to be defective or unfit for service, and a public service vehicle license may also be revoked or suspended if the holder ceases in the opinion of the commissioners to be a fit person to hold such a license. The public service vehicle is, in fact, in the form of a disc carried on the windscreen of the vehicle. Its grant is an administrative act; that is, it is granted in the traffic commissioners' office without any public hearing or inquiry.

THE new and essential feature of the licensing system under the act of 1930 is the provision which makes it unlawful to operate a service of stage carriages or express carriages except under a road service license. Applications for road service licenses are made to the traffic commissioners of the area in which the service is to be operated. If the service operates in more than one traffic area, the license may be granted by the commissioners of any of those areas, but must be "backed" by the commissioners of each of the other areas. Every application for a road service license or "backing" is advertised. Objections against the application may be lodged within the prescribed time by any "person already providing transport facilities along or near to" the route of the proposed service, or by any local authority in whose area the route or any part of it is situated. Applications are frequently opposed by the other operators or by the British Transport Commission, and by local authorities, and representations are often made by the police.

The commissioners also have a wide discretion to hear representations from the public and frequently do so. The application and any objections or representations in respect of it are heard by the traffic commissioners at a public inquiry, at which the parties may be, and frequently are represented by counsel or solicitor. The hearing of an application for a road service license may be and quite commonly is a considerable legal battle involving issues of considerable interest to the public and substantial financial concern to the parties. It is clearly recognized that, although the duties of the traffic commissioners are primarily administrative, they must in hearing and determining applications for road service licenses act judicially.

THE act expressly requires the commissioners "in exercising their discretion to grant or to refuse a road service license" to have regard to the following matters:

(a) the suitability of the routes on which a service may be provided under the license;

(b) the extent, if any, to which the needs of the proposed routes or any of them are already adequately served;

(c) the extent to which the proposed service is necessary or desirable in the public interest;

(d) the needs of the area as a whole in relation to traffic (including the provision of adequate, suitable and efficient services, the elimination of unnecessary services, and the provision of unremunerative services), and the co-ordination of all forms of passenger transport, including transport by rail.

Those are the issues which the commissioners have to decide. To give effect to their decision, they are empowered to attach conditions to a road service license, and in particular for securing that "fares shall not be unreasonable," or that the fares be so fixed as to prevent wasteful competition with alternative forms of transport, and as to the points at which passengers may or may not be taken up or set down.

THE road service license specifies the route of the service, and requires the holder to comply with a number of conditions. Any deviation from the route or failure to comply with the conditions renders the license liable to be revoked or suspended. Willful or negligent failure to comply with

any of the conditions is also an offense under the act, carrying a maximum penalty of £20 for the first offense or £50 or three months imprisonment for any subsequent offense.

It will be noted that, except in special cases to prevent wasteful competition, it is not the duty of commissioners, and indeed they have no authority, to fix fares. Their duty is to secure that "the fares shall not be unreasonable." That provision has proved an important protection to operators against the arbitrary imposition of uneconomic fares, but at the same time has enabled the commissioners to protect the public from exploitation, although I am bound to add that the public has frequently thought that they were being exploited by the increased fares, which all operators have in the past few years been forced to charge by reason of constantly increasing wages and other costs, notwithstanding that the increases have been approved by the commissioners.

In practice, the timetable and fare table of the authorized service are attached to the license, so that any failure to operate the service in accordance with the approved timetable, or any charge not in accordance with the approved fare table, is a breach of condition.

By means of conditions attached to the road service licenses granted in respect of a particular route, the commissioners can secure that the timetables and fare tables of the various services on the route, which may, of course, be operated by several operators, are properly co-ordinated, so that the services are adequate in frequency but not excessive; that the timetables are convenient to the public and in particular ensure reasonable connections between one service and another, or with rail services; that one operator is not able to "undercut" and so abstract traffic from another; and that unsuitable types of vehicles are not used on the route; and that stopping places and fare stages are conveniently placed.

The commissioners are also able by fixing minimum fares or other devices to secure that one type of service does not "poach on the preserve" of other types of service. For example, the act draws the distinction between stage carriages—that is, vehicles carrying passengers at fares which may be less than 1/- —and express carriages—that is, vehicles carrying passengers at fares none of which are less than 1/-. The act itself thus distinguishes between the vehicles which are popularly known as buses and coaches. But the commissioners have been able further to classify services. Thus, services commonly referred to as "excursions or tours," which carry passengers on day excursions, for example, from holiday resorts to places of interest, or to race meetings, are prevented from competing with regular stage or express services, by conditions which authorize them to charge only day return fares and prohibit them from taking up or setting down passengers en route. Similarly, vehicles taking American and other visitors on comprehensive tours of Great Britain have been fitted into the system. Again to prevent short-stage passengers crowding on to long-distance services at busy terminals or to protect the local operator from competition from long-distance services, the operator of the long-distance service may be authorized or required to charge higher fares than the local service.

The act of 1930 itself draws a further distinction between the stage or express carriage carrying passengers at separate fares and the contract carriage which is hired as a whole to carry a private party. The contract carriage requires a public service vehicle license but not a road service license. It has always been recognized that the contract carriage should not be allowed to compete with the regular stage and express service, but it has always been difficult to define precisely the proper sphere of the contract carriage. It was soon found that the relevant provisions in the act of 1930 were too restrictive, and they were in consequence amended by an act of 1934. As a result of decisions of the High Court it was found that, even as amended in 1934, the act of 1930 still made operations illegal unless licensed, which had generally been regarded as legitimate. In consequence, the law was again amended by the Road Traffic Act 1956.

It is too early to determine whether the act of 1956 has succeeded in drawing the line between those operations which must and those which need not be authorized by a road service license. For the administrator the problem is to confine each class of vehicle to its proper function. For the legislator and

the lawyer it becomes a difficult problem of definition. Abroad I have found that the solution of the problem has been sought by requiring contract carriages or private hire operations to be licensed, but at least in this country that solution would involve considerable administrative difficulties. Incidentally, a somewhat similar question arose before the last war in protecting the taxi from competition from the private hire vehicle. An Inter Departmental Committee recommended in 1939 that private hire vehicles should be licensed but the war came and nothing was done. The question does not seem to have been raised again since the war.

APPLICANTS for road service licenses and objectors have a right of appeal from decisions of the traffic commissioners to the Minister of Transport. The appeal is heard by an inspector appointed by the Minister. Upon the hearing of the appeal, the applicant and any objectors to the applications are entitled to be represented. The commissioners are not represented but they make written observations upon the appeal. The appeal is not a rehearing but is argued upon the transcript of the shorthand note taken of the proceedings before the commissioners, their decision, and their observations on the appeal. The inspector reports on the appeal to the Minister and recommends whether the appeal should be dismissed or allowed, or the application remitted to the commissioners for rehearing.

The Minister is not bound to accept the recommendations of the inspector, but for many years it has been the practice for the inspector's report to be supplied to the parties, and indeed others on application, and for the Minister to give brief reasons for his decision where he does not accept the recommendations of his inspector. In a number of cases raising questions of general principle, the Minister has given reasons for his decision which have proved a useful guide to the commissioners and parties in subsequent cases, although strictly the Minister is not bound by previous decisions given on appeal.

THERE has been considerable support for the view that appeals should be heard not by the Minister, but a separate independent tribunal. However, a Departmental Committee appointed in 1953 to consider and report on the working of the act of 1930, after hearing a considerable body of evidence, recommended that, apart from relatively minor alterations in procedure, which have since been made by an act of 1956, there should be no change in the procedure. Briefly, the arguments in favor of the present procedure are that decisions upon applications for road service licenses frequently involve questions of policy which are more suitably determined by the Minister, who is, of course, responsible for his decisions to Parliament, than by a tribunal whose decisions could not be questioned in the House of Commons and would tend to establish and consider itself bound by an inflexible body of case law.

In addition to their duties in relation to the grant of public service vehicle licenses and road service licenses, the traffic commissioners are also responsible for licensing drivers and conductors. Detailed regulations have been made under the act from time to time as to the construction of and the equipment to be carried on public service vehicles, and the number of passengers which may be carried. The industry frequently complains that the regulations lag unduly far behind technical improvements in design and construction, but at least since the act of 1930 came into force, there have been national standards. The act of 1930, as amended by later acts, also contains provisions for limiting the hours during which drivers of public service vehicles may be continuously on duty and the intervals to be allowed for rest, and provisions for securing fair rates of wages and conditions of employment of drivers and conductors of public service vehicles.

THE act of 1930 does not apply to the omnibus or coach services of the London Transport Executive except in certain districts on the fringe of the London Transport Area. The London Transport Executive is one of the executives of the British Transport Commission created by the Transport Act 1947. The undertaking of the London Passenger Transport Board was vested by the act of 1947 in the commission, and the commission has under that act delegated the powers and duties, which it inherited from the London Passenger Transport Board, to the London Transport Executive.

The London Passenger Transport Board was created by the London Passenger Trans-

port Act 1933. The board was by that act virtually given a monopoly for the carriage of passengers by omnibus or coach within the London Transport Area, a wide area comprising the county and city of London and parts of the adjoining counties, and acquired the omnibus undertakings operated or controlled by the London General Omnibus Company, Ltd., the undertakings of the Metropolitan Railway Company, and the London Underground railway companies, the tramway or trolley vehicle undertakings of the London County Council and other local authorities within the London Transport Area, and parts of the omnibus undertakings of a number of independent companies which were then operating stage carriage services within the London Transport Area.

A PAPER on public road transport would be incomplete without a reference to trams and trolley vehicles. No one could have foreseen in, say, 1900 that the electric tram would within forty or fifty years have become obsolete and been replaced by the motor omnibus or the trolley vehicle, but whereas nearly 245 million vehicle miles were operated by trams in 1906, only 62 million vehicle miles were operated in 1955 as compared with the 2,300 million run in that year by public service vehicles, Tramways now survive in only a few large provincial towns or cities such as Sheffield and Glasgow. The trolley vehicle has had an even shorter career. They were for the most part introduced in place of trams between the wars. Since the last war many have been replaced by omnibuses. The London Transport Executive has announced its intention to discontinue its trolley vehicle services and most of the remainder are likely to be replaced by omnibuses within the next few years.

Statutory authority is necessary for the laying of tramways or the erection of trolley vehicle equipment, and for the running of trams and trolley vehicles along public highways. The necessary statutory powers are conferred by orders made under the Tramways Act 1870 and confirmed by act of Parliament, or by special acts or by orders made by the Minister of Transport under powers conferred by special acts. Except in areas where the trams or trolley vehicles have statutory protection from competition, the traffic commissioners were by an act of 1954 given power to regulate fares charged on trams and trolley vehicles, but otherwise tram and trolley vehicle services are not within the licensing jurisdiction of the commissioners under the act of 1930.

WHAT conclusions may be drawn from this review of our legislation for controlling road passenger transport in Great Britain? Some conflict of view between the legislator or administrator on the one hand, and the inventor or the exploiter of the new invention on the other is no doubt inevitable. The one puts up his red flag or imposes a speed limit and is accused by the other of hampering progress. The accusation is frequently unjust, but it seems to me that in relation to transport, legislation has too often lagged much further behind invention than was necessary or justifiable, and too often has tried to patch up and apply to modern form of transport, laws as obsolete as the sedan chair or the bullock wagon. No legislator could be expected in 1900 to foresee the demise of the electric tramway and the advent of the motor omnibus within a generation, but he surely might before 1930 have recognized that statutes applicable to the horse-drawn cab or omnibus of the Victorian era had ceased to be appropriate to the motor coach. However, even if somewhat overdue, the Road Traffic Act 1930 provided a new system of licensing and control, which, after more than twenty years' experience, is generally acknowledged to have been well-designed to suit the new conditions created by the rapid development and expansion of motor omnibus and coach services throughout Great Britain. Indeed, I have found it used as a precedent for legislation elsewhere in the Commonwealth. It is interesting to find that a system of licensing framed, not for export, but to suit the traffic conditions of this country, can work satisfactorily in the tropics. That means, I suppose, that traffic problems are much the same everywhere, but it also confirms the view that the framers of the act of 1930 devised a sound and efficient instrument.

THE legislation regulating the carriage of goods by road goes back to the recommendations of the Royal Commission in its final report published in 1931, and the recommendations of a conference of representa-

tives of the four main-line railway companies and of road haulage associations under the chairmanship of Sir Arthur Salter, which reported in 1932. Lorries were already subject at that time to the general statutes affecting motor vehicles generally, as to speed limits and dangerous driving and similar matters, which are outside the scope of this paper. The Road Traffic Act passed in 1930 to give effect to the recommendations of the Royal Commission made insurance against third-party claims compulsory for all classes of motor vehicles and contained provisions as to the licensing of drivers and the limits of time for which drivers of certain classes of vehicles, including lorries, might remain on duty, but there was at that time no system of licensing vehicles engaged in the carriage of goods, nor were wages and conditions of service of drivers of goods vehicles regulated. As already mentioned, the act of 1930 provided for the regulation of the wages and conditions of drivers and conductors of public service vehicles, but not of goods vehicles.

THE conditions, which arose immediately after the First World War and made some control imperative, may best be described from the following extracts from evidence given before the Royal Commission:

> The ease with which secondhand vehicles could be acquired from the Disposals Board, together with the fact that railway rates had materially advanced, brought about transient and fictitious conditions which encouraged many, who were without either the necessary resources or training, to embark in the business of road transport. The large number of newcomers created a condition which amounted almost to complete chaos . . .
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> The owner driver is generally a newcomer to the trade and has little business experience, little knowledge of the cost of running a lorry for a series of years, and no appreciable organizations for obtaining traffic. . . . For return loads he is almost forced to accept any rate that may be offered and is certainly tempted to canvass for traffic at a rate which will obtain the traffic irrespective of whether the transaction is a paying proposition in the long run for himself. This feature is accentuated if his vehicle has been acquired on the hire purchase system, under which he has to obtain substantial cash receipts at any cost, in order to meet the instalments as they fall due. . . . The only way in which the small man in this position can keep going is to increase his hours of labor, and try to make man and machine do an abnormal amount of work.

THE commission found that while railways, the inland waterways, and shipping were "all organized agencies of transport," which claimed to suffer in a greater or lesser degree from the competition, sometimes described as "unfair," of road transport, the goods branch of the road transport industry was in a condition which lacked all unity and was operated by a number of independent firms and individuals who, while endeavoring to compete with other forms of transport, were at the same time engaged in bitter and uneconomic strife with each other in their own particular branch.

This description will, I am sure, sound all too true and familiar to anyone who has had experience of unregulated road transport whether for passengers or goods. I remember conditions in this country before the Road Traffic Act 1930 and I have seen the same story repeated in other countries in the Commonwealth.

Witnesses before the Royal Commission proposed that goods vehicles as well as public service vehicle licenses should be licensed by the traffic commissioners which had then been set up under the act of 1930, following the recommendations in the second report of the Royal Commission. Indeed, one of the trade unions giving evidence before the Royal Commission advocated a system of licensing, even before the publication of the commission's proposals for the establishment of traffic commissioners to license public service vehicles.

THE commission recommended that road haulers should be placed under a system of licensing. It regarded a system of licensing as the only means of bringing about such organization of transport as it believed would be not only of great advantage to the road haulage industry itself, but also "an essential precedent to any attempt at general coordination with other forms of transport." However, it clearly recognized the obvious

and essential difference between passenger transport and goods transport, and so recommended a simpler form of licensing than the system which it had recommended for public service vehicles; that is, it proposed that goods vehicles, or perhaps it would be more correct to say, the hauler, should be licensed and not the service. It further proposed that in considering applications for haulers' licenses "the traffic commissioners should have regard only to the fitness of the vehicle, and the wages and conditions of service of persons employed in connection therewith." In other words, they did not by their recommendations attempt to deal with the wider problems of co-ordination of road transport with railways and other forms of transport.

Those wider problems were particularly considered by the conference on rail and road transport. It pointed out in its report that "the problem of unfair competition did not arise before the advent of the internal combustion engine, because the railways and the canals had a natural advantage over any form of transport for the class of traffic for which they were suitable, which no free use of the roads by horse-drawn traffic could substantially impair." It considered that there should be a licensing system not only to secure the observance of fair wages and conditions of service in the road haulage industry and the proper maintenance of vehicles, but also to deal with "the evils of overcrowding and unbridled competition in the industry." It therefore recommended that in considering applications for haulers' licenses, the licensing authority should have regard to "any such excess in existing transport facilities as may make the grant of a license for the full number of vehicles asked for against the public interest."

EFFECT was given to the recommendations of the Royal Commission and of the conference by the Road and Rail Traffic Act 1933, which is still in force. By that act licensing jurisdiction over goods vehicles was vested not in the traffic commissioners, but in the chairman of the traffic commissioners in each Traffic Area.

Since the act it has been unlawful without a license to use a motor vehicle or trailer on a road to carry goods whether for hire or reward, or in connection with any trade or business carried on by the user of the vehicle. The licensing system therefore applies, with certain exceptions, not only to vehicles used by common carriers, but also to vehicles used by manufacturers or traders to carry their own raw materials or semifinished products or for delivery of goods to customers. The provisions in relation to vehicles used by a manufacturer or trader in his own business are much less exacting than those applicable to the vehicles used by public carriers.

Licenses are divided into three classes; namely,

(i) Public carrier's licenses or A licenses.

(ii) Limited carrier's licenses or B licenses.

(iii) Private carrier's licenses or C licenses.

As its name indicates, the A license is the public carrier's license. The C license is the license under which, for instance, the manufacturer's lorry, the builder's truck, or the shopkeeper's delivery van is licensed. The A licensed vehicle can be used only in connection with the owner's business as a public carrier or any incidental storage or warehousing business carried on by him. The C licensed vehicle can be used only in the owner's own trade or business and not for the carriage of goods for hire or reward. The B license covers an intermediate class. It permits the authorized vehicles to be used not only for the owner's own trade or business, but also, subject to such extent as the licensing authority may permit, to carry goods for hire or reward. For instance, a manufacturer may under a B license be authorized to carry goods from his factory in the London area to his factory in the Midlands for finishing and on the return journey to carry goods for someone else.

Licensing authorities also have power to grant "short-term" licenses for the purposes of seasonal business or a particular job.

C licenses are granted subject to the general statutory provisions as to the maintenance of vehicles in fit and serviceable condition, speed, laden and unladen weights, the loading of goods vehicles, and the hours during which a driver may be continuously on duty and the intervals to be allowed for rest. In other words, a C license is concerned

with public safety, and not with wages and conditions or other matters affecting fair competition or the limitation of the number of vehicles on the road. Applications for C licenses are therefore granted automatically without a public hearing, unless any other license held by the applicant has been revoked or suspended.

A AND B licenses are also granted subject to the general statutory provisions, and in addition to a condition for securing recognized rates of wages and conditions of employment for drivers and others employed on the authorized vehicles. A license of any of the three classes may be revoked or suspended by the licensing authority if any of the provisions or conditions subject to which it is granted are not complied with.

The essential difference, however, between A and B licenses and C licenses is that on the hearing of an application for an A or B license it is the duty of the licensing authority to consider primarily the requirements of the public and the extent to which existing facilities are sufficient and suitable. Applications for A and B licenses are advertised and may be opposed by persons already providing facilities, whether by road, rail, or otherwise, on the ground that suitable facilities already exist. The application and the objections are considered at a public inquiry, at which the parties may be, and usually are, represented by counsel or solicitor, and evidence is given as to the adequacy or otherwise of existing facilities. If the licensing authority considers that the number of vehicles proposed to be used by the applicant will be in excess of requirements, the application will be refused or granted only as to some of the vehicles applied for. That briefly is the machinery intended to enable the licensing authorities to regulate the number of vehicles authorized under A and B licenses and to effect some measure at least of co-ordination between road and rail and other forms of transport.

APPLICANTS and objectors have a right of appeal from decisions of the licensing authorities. The appeal lies not to the Minister of Transport as under the act of 1930 but to a special appeals tribunal constituted by the act of 1933. The tribunal consists of three members appointed by the Minister, of whom the chairman is required to be "a person of legal experience." Although the tribunal has powers to examine witnesses on oath, an appeal from a decision to grant or refuse an application for a license is not a rehearing of the application and no new evidence is normally admitted, but the appeal is determined on the transcript of the shorthand note of the proceedings before the licensing authority. Reports of cases before the tribunal raising issues of principle or general interest are published in a special series of reports.

Perhaps it is unnecessary to add that the act of 1933 has not solved the problems of co-ordination between road and rail. The argument continues as to what traffic should properly go by road and what by rail, and how traffic which ought to go by rail can be kept off the roads. Those questions raise wide issues of policy and economics which are outside the scope of this paper. The road hauler, who is prevented by railway objections from increasing his fleet or expanding his business, no doubt considers that the act of 1933 is too restrictive, and weights the dice unduly in favor of the railways. The railway commercial officer, the road engineer, the police, and indeed all who are concerned with the growing congestion on our roads, would no doubt like to see more traffic diverted from road to rail. But neither the act of 1933 nor the licensing authorities can be blamed, if no final solution has yet been found for problems raising wide issues of policy for which Parliament must ultimately be largely responsible.

IN fact, since the war, the policy has twice been fundamentally changed by Parliament. First, it was the policy to secure to the British Transport Commission a virtual monopoly as public carriers of goods not only by rail and canal but also, save for limited distances, by road. Pursuant to that policy the commission was by the Transport Act 1947 empowered and indeed required to acquire compulsorily undertakings predominantly concerned in the long-distance carriage of goods by road; that is, broadly the carriage of goods for 40 miles or more, or outside a radius of 25 miles from the operating center of the vehicle. By the same act, the commission was freed from the obligation to obtain licenses for its goods vehicles

APPENDIX

under the act of 1933, and, generally speaking, the holder of an A or B license was prohibited, except under and in accordance with a permit granted by the commission, from carrying goods for hire or reward outside a radius of 25 miles from his operating center.

The commission acquired, either by agreement or compulsorily under the act of 1947, some 42,000 vehicles and built up a large road haulage undertaking, which was maintained and operated as a single unit by the Road Haulage Executive of the commission. However, by the Transport Act, 1953, the policy was reversed and the greater part of the commission's road haulage undertaking has since been "denationalized."

Under that act, not only was the commission required to dispose of the greater part of its road haulage undertaking, but its exemption from licensing under the act of 1933 and the 25-mile restriction on holders of "A" and "B" licenses were repealed.

THE commission retained the fleet of collection and delivery vehicles operated through the agency of the Railway Executive, and under the act of 1953, as amended by a further act of 1956, was permitted to retain some 9,000 vehicles forming part of its road haulage undertaking. Speaking generally, it was required to dispose of the remainder of that undertaking, which, of course, comprised not only vehicles but also a large number of depots, garages, workshops, and other property, either by offering vehicles for purchase by public tender in lots with or without other property, or by incorporating a company for a particular purpose, such as the carriage of meat, and transferring to it the necessary vehicles, depots, and other property with a view to the ultimate sale of the shares in the company. The act of 1953 provided that the shares in companies so formed should be sold by the commission as soon as practicable in one parcel, but that was found to be impracticable, so that the act of 1956 authorized the commission, with the consent of the Minister, to defer the sale.

Under the acts of 1953 and 1956 the commission has sold over 20,000 vehicles and a large amount of property, and has formed two companies, one for the carriage of parcels and the other of meat to which it has transferred some 4,600 vehicles with the necessary depots and other property. Those two companies are now being operated as separate undertakings under the control of the commission. The magnitude of the operation carried out by the commission pursuant to the act of 1953 is shown by the fact that in little more than three years the commission has in one way or another disposed of over 25,000 vehicles, and a very large number of depots, garages, and workshops, as well as stores and other assets, and the aggregate amount so far realized exceeds £24.5 million.

IT is as yet too early to judge of the success of the act of 1953 in securing conditions in which there may be fair but not wasteful competition upon the roads of Great Britain and in which all kinds of transport, whether provided by the British Transport Commission or by private enterprise, may be enabled to serve the public both efficiently and economically.

Some Legal Aspects of the Nationalization of Railways

BY M. H. B. GILMOUR*

Railways under Private Enterprise

THE railways which exist today were constructed and worked by companies under powers conferred by act of Parliament. The capital of these companies was subscribed by private persons and those who invested their money in this way did so mainly with an eye to profit. In the early days, the railway companies enjoyed a very large measure of freedom in the conduct of their commercial business, although as providers of a public service their rates were subject to prescribed maxima and they were required to charge all persons equally in like circumstances. By the middle of the last century the companies had acquired a virtual monopoly of inland transport, and this resulted

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in further restrictions and obligations being laid upon them by Parliament. They were, for instance, prohibited from unduly preferring one customer to another, not only in the matter of rates but also in the matter of service, and they were also required to afford reasonable facilities for the receiving, forwarding, and delivering of traffic.

As the railway network in Great Britain extended, so the number of separate companies increased with the result that, although collectively the companies enjoyed a transport monopoly, the competition between them was often acute. The undertakings of many of the smaller companies were absorbed or worked by the larger companies or by joint committees formed by several companies. Even as late as the outbreak of the First World War in 1914 there were well over a hundred railway companies in this comparatively small island, although only a small proportion of these were of any significant size.

AFTER the First World War, all these companies with a few minor exceptions were amalgamated under the Railways Act, 1921, into four groups, and the amalgamated companies inherited the powers and obligations of their predecessors. A major change was, however, introduced in the railway charging system. Instead of maximum charges, a rates structure based on fixed or standard charges was introduced and variations—known as "exceptional rates"—could only be made in certain circumstances. All railway rates had, moreover, to be published. It was not until the passing of the Road and Rail Traffic Act, 1933, that the railway companies were given the right to agree special rates with individual traders, and even this concession was hedged round with considerable limitations.

Apart from the new charging system, the amalgamated railway companies continued to be subject to all the commercial restrictions and obligations which had been introduced in the days of the railway monopoly, and this was so in spite of the greatly increasing competition from the roads. This is not intended to imply that the road competition with which the companies were faced was entirely unchecked: Statutory machinery was introduced in the 1930's for controlling or regulating the activities of road carriers, both of passengers and freight, but this is a subject of another paper.

IN addition to their main business as carriers by rail the railway companies had a number of ancillary activities. They owned and operated large groups of docks, notably those at Southampton, Hull, and in South Wales, and also a number of smaller docks and packet ports; they owned and operated fleets of cross-channel vessels for the purpose of providing links between the railways in Britain and those on the continent of Europe and in Ireland, and they also owned and managed a large number of hotels. On the road side, the railway companies had appreciable financial interests in most of the major bus companies and in several groups of haulage companies.

On the outbreak of the Second World War in 1939 the government took control of the railways for the purposes of the war and this control continued until the end of 1947. In the meantime, a bill for the nationalization of public inland transport had been introduced into Parliament which eventually became law in August, 1947. Under its provisions, the undertakings of the railway companies passed into public ownership on the first of January, 1948. The railway stockholders were compensated by the issue to them of British Transport stock, the principal and interest of which is guaranteed by the Treasury. The railway companies themselves were dissolved after their affairs had been wound up.

Nationalization—The British Transport Commission

THE method chosen for the nationalization of public inland transport in Great Britain was the creation of a public authority called the British Transport Commission to which all the undertakings it was intended to nationalize were to be transferred and which would be the authority responsible for the operation of the publicly owned transport system.

The Transport Commission is a body consisting of a chairman and not less than four nor more than fourteen other members, all of whom are appointed by the Minister of Transport and Civil Aviation. As a corporate body, the commission is a legal entity apart from these members. The commission

can hold land and can sue and be sued and it is subject to the ordinary rules of law which govern corporations and individuals. The commission is indeed similar to the other public corporations which were set up to conduct the nationalized gas and electricity supply industries about which you will have heard in my colleagues' papers. . . .

Changes in the Nationalized Transport Structure

THE act of 1947 not only nationalized the undertakings of the railway companies, it also nationalized the public transport system in London and practically the whole of the inland waterway system in the country. It gave the commission a monopoly of long-distance road haulage. The act contained machinery for bringing the passenger road transport industry under public control, and also similar machinery for the transfer to public control of most of the independently owned trade harbors in the country. Owing, however, to a reversal of national transport policy, many of the provisions of the act of 1947 were repealed or modified by the Transport Act, 1953. A large part of the road haulage industry has been denationalized and the functions of the Transport Commission have undergone considerable modification, as also have the methods by which the commission conducts its activities. The result of these changes is that, although the commission has large interests in road transport companies, there is no longer a public inland transport monopoly, and the nationalized railways have been placed in direct competition with private enterprise on the roads and have been freed from some of the commercial restrictions which formerly applied to them.

Functions of the Commission

THE Transport Act 1947 declares that all the business carried on by the commission (that is to say, not only the nationalized railways but also all the other transport interests owned by it) is to form one undertaking, and that the commission is so to conduct that undertaking and, subject to the provisions of the act, levy such fares, rates, tolls, dues, and other charges, as to secure that their revenue is not less than sufficient for making provision for the meeting of charges properly chargeable to revenue, taking one year with another. This is not a legal duty in the sense that it can be enforced in any court of law. It merely shows that the commission is to be financially self-supporting.

In its capacity as the national railway authority the commission has a general duty to provide railway services for Great Britain, due regard being had to efficiency, economy, and safety of operation and to the needs of the public, agriculture, commerce, and industry. Here again, this is not an enforceable legal duty: It is merely declaratory of part of the commission's functions.

The commission is, however, successor to the former railway companies and therefore stands in their shoes. It is thus bound by the provisions of earlier railway legislation and, while the acts authorizing the construction and operation of particular lines of railway were in general permissive only, there were a few instances in which companies were for special reasons required to provide a rail service. Until it is released by Parliament, the commission is bound by such of these obligations as still exist.

AS successors to the railway companies, the commission is also bound to afford reasonable facilities for the receiving, forwarding, and delivering of traffic. This is a legal obligation which is enforceable at the present time by the court known as the Transport Tribunal. The extent of the duty is difficult to define and the subject is extremely complicated. In days gone by a great many "facilities" cases were brought before the courts, although it is now many years since an order was made. All attempts in modern times to obtain facilities orders against railway companies have failed on one ground or another and it was possibly for this reason, among others, that the act of 1947 set up the consultative machinery to which reference is made later in this paper.

Present Organization

SEVERAL changes have taken place in the organization of the railways since they were nationalized in 1948. The present organization is, however, all that matters for the purpose of this paper.

Provisions were included in the Transport Act of 1953 for a scheme of organization which would provide for the decentral-

ized management of the railways on an area basis. The scheme of organization which the act required was duly prepared and approved by Parliament; it therefore has statutory effect.

Under this scheme, Great Britain is divided into six areas. One area consists of the whole of Scotland, and the other five areas comprise between them the whole of England and Wales. An Area Board was set up for each area and, except for certain matters reserved to the Transport Commission, the management of the railways in the areas is delegated to the boards. Among the matters reserved are general financial control and general control of the charges to be made for the services and facilities provided on the railways. Limitations are also imposed on the authority of the boards to authorize works expenditure, property transfers, and staff appointments.

THE London underground railways, and certain other railways in the London area which are managed by the London Transport Executive, were excluded from the area organization scheme.

The Area boards are not corporate bodies. Members of the boards are appointed by the commission and are people who have had wide experience and are likely to be conversant with the circumstances and special requirements in relation to transport in the area of the board. The boards are organs of management, and they act on behalf, and in the name, of the commission. All the legal rights and obligations of the commission in relation to the railways are enforceable by and against the commission and not the boards. The part of the railways system for which each board is responsible is known as a Railway Region, and each region has a general manager and a number of administrative and technical departments, each under a departmental chief officer who is responsible to the general manager.

More Commercial Freedom

AS has already been mentioned, the reversal of national transport policy has placed the nationalized railways in direct competition with private enterprise on the roads. To enable the Transport Commission to be better equipped to meet this competition, the Transport Act of 1953 made some considerable amendments in the commission's powers and relieved it of some of the restrictive obligations imposed on the railways in the monopoly era.

The act provided that the statutory provisions prohibiting undue preference and requiring equality of treatment should not apply to the railways of the commission. Instead, the act enables a person who wishes to send by railway traffic which cannot reasonably be carried by any other means of transport, to complain to the Transport Tribunal about the unreasonableness or unfairness of the railway rate he is required to pay, and the tribunal may make such order in the matter as it considers just.

The act of 1953 has also given the Transport Commission much greater freedom in the matter of its railway charges than it hitherto possessed.

Charges Schemes

UNDER the Transport acts of 1947 and 1953 the commission is required to submit to the Transport Tribunal draft charges schemes for determining, among other things, the charges to be made by it for the carriage of merchandise or passengers by railway, and opportunity is given for representations to be made by interested parties. The tribunal holds a public inquiry and, after hearing objectors and the commission, it can either refuse to confirm a scheme or confirm it with such alterations, if any, as it thinks fit. Since the passing of the 1947 act, the tribunal has confirmed four charges schemes in relation to passengers and on the first of July, 1957, the British Transport Commission (Railway Merchandise) Charges Scheme, 1957, which was confirmed by the tribunal at the end of 1956, came into force.

The commission's charging powers are thus granted not by Parliament or by the Minister of Transport and Civil Aviation but by a judicial body. The Minister may, however, at any time require the tribunal to review the operation of any charges scheme.

Charges schemes have thus replaced the system of standard and exceptional rates introduced by the Railways Act, 1921. The schemes must provide for maximum charges or, where maximum charges are not reasonably practicable or are undesirable, for reasonable charges. Where reasonable charges are imposed, any question as to whether a

particular charge is reasonable falls to be determined by the Transport Tribunal to the exclusion of any other court. In all other respects, charges schemes are required to secure that the charges to be made by the Transport Commission are left to the commission's discretion, and the commission is no longer bound to publish its charges other than the maximum charges prescribed by a scheme.

THE commission is also free to agree freight charges with railways users, and such agreed charges may be either less or in certain cases more than the maximum charges prescribed by the charges scheme. For example, a flat rate may be agreed for the carriage of a particular trader's traffic from, say, London to a number of destinations at different distances from London so that the flat rate when applied to the shorter distance may exceed the maximum charge prescribed by the charges scheme for the particular traffic over that distance.

The Transport Act, 1947, provides that a charges scheme can only be altered with the approval of the Transport Tribunal. Except as mentioned in a subsequent paragraph of this paper, an application to alter a scheme cannot be made within twelve months of the coming into force of the scheme or of the previous consideration by the tribunal of the subject matter of the application, nor can an application to alter be entertained if the tribunal is of opinion that the alteration is one which, owing to its magnitude, ought not to be made except by an amending scheme or as the result of a review of the scheme sought to be altered. An application to alter a charges scheme must be advertised to enable objections and representations to be made and the tribunal must hold a public inquiry into the application, whether or not objections or representations are received.

THE Transport Act, 1953, however, contains a special procedure whereby temporary increases of not more than 10 per cent in maximum charges fixed by a charges scheme can be brought into operation quickly in order to meet increases in the Transport Commission's costs. This special procedure is designed to overcome the difficulties which would arise if the commission, when faced with an increase of costs such as a rise in wages, had to await the decision of the Transport Tribunal on an application to increase its maximum charges before it could secure any additional revenue to meet the increased costs. But the procedure is only available to the commission if it appears to it that the increase in costs will, unless met quickly by an increase in charges, seriously affect its financial position, and that the necessary increase in revenue cannot reasonably be obtained without making charges greater than those authorized by the charges schemes in force.

THE special procedure differs according to whether the charges to be increased are passenger fares or other charges, such as charges for the carriage of merchandise.

If the charges to be increased are passenger fares, an *ex parte* application to the Transport Tribunal must be made by the commission which is heard in private and without publication of the application. If the tribunal is satisfied that the conditions of the section are fulfilled, it can forthwith order the increases to be made. The tribunal cannot make an order for the increase of passenger fares in London if it thinks that the increase will result in the revenue of the commission from passenger fares in London being increased by more than is sufficient to meet the increase in costs of the Transport Commission attributable to the provision of passenger services in London.

If the charges to be increased are not passenger fares, the Transport Commission need only give public notice that the increases will come into force on a specified date.

WITHIN one month or such longer period as the Minister of Transport and Civil Aviation may allow from the coming into force of the temporary increases, the commission must make an application to the tribunal to alter all or any of the charges schemes in force, but the alterations so sought need not be confined to confirming the increases of charges made under the special procedure. Moreover, where the special procedure has been followed the subsequent application can be made within twelve months of the making of the scheme to be altered or of the prior consideration by the tribunal of the subject matter of the application. The decision of the tribunal on the application, after considering objections and representa-

tions and holding a public inquiry, supersedes the order or notice by which the temporary increases were brought into operation.

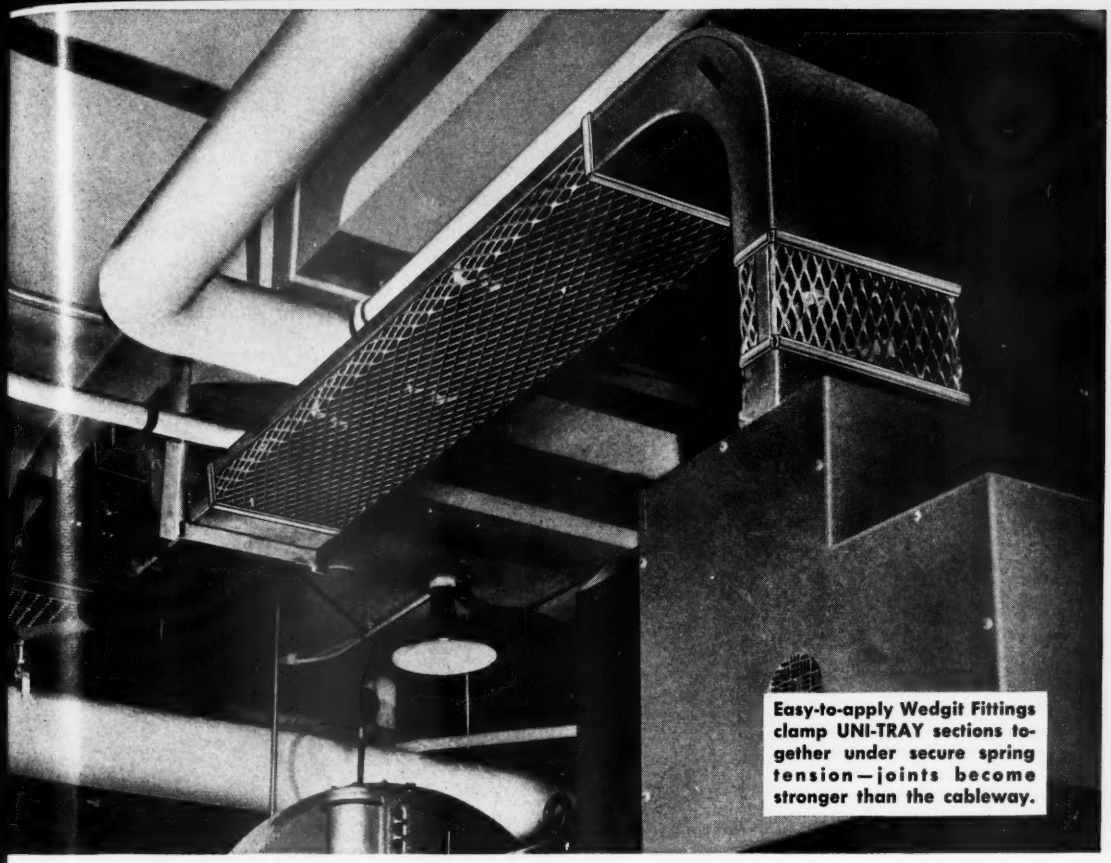
Ministerial Control

IN the judgment of the court of appeal[1] reference is made to the duty of the Transport Commission to obey the general directions given by the Minister of Transport and Civil Aviation in relation to matters which appear to him to affect the national interest. The commission is also subject to ministerial control in other respects. For example, in framing programs of reorganization or development involving substantial outlay on capital account, the commission must act on lines settled from time to time with the approval of the Minister. Again, the commission may not promote bills in Parliament without the Minister's consent; thus, if the commission desires to obtain statutory powers to construct a new railway or to widen an existing one, the consent of the Minister must be obtained before these powers can be sought.

The Transport acts also lay down machinery under which the services and facilities provided by the commission can be kept under review. Consultative committees, the members of which are appointed by the Minister, have been set up throughout the country. These committees are charged with the duty of considering and, where they think it necessary, of making recommendations in regard to any matter affecting the services and facilities provided by the commission. These terms of reference are fairly wide, and the acts provide that where certain of these committees make recommendations to the Minister, he may give such directions to the commission with respect to the matters dealt with by the recommendation as he thinks fit, and the commission must comply with those directions. Thus, if the commission proposes to close down an unremunerative branch railway line or to withdraw or reduce rail services or facilities at or between particular points, it may be subject to the directions of the Minister under the consultative machinery.

While the Transport Commission was established as the authority responsible for the operation of the nationalized railways, Parliament has recognized that it is necessary for the commission's powers of management to be subject to the control of the Minister where the national or public interest requires it. The Minister is, of course, responsible in turn to Parliament for what he does. The Minister's powers of direction, for which the Transport acts provide, are designed to ensure that, in conducting their undertaking, the commission do what is necessary in the interests of the community.

[1] Judgment of Lord Justice Denning (now Lord Denning) decided in the English court of appeal in 1950.



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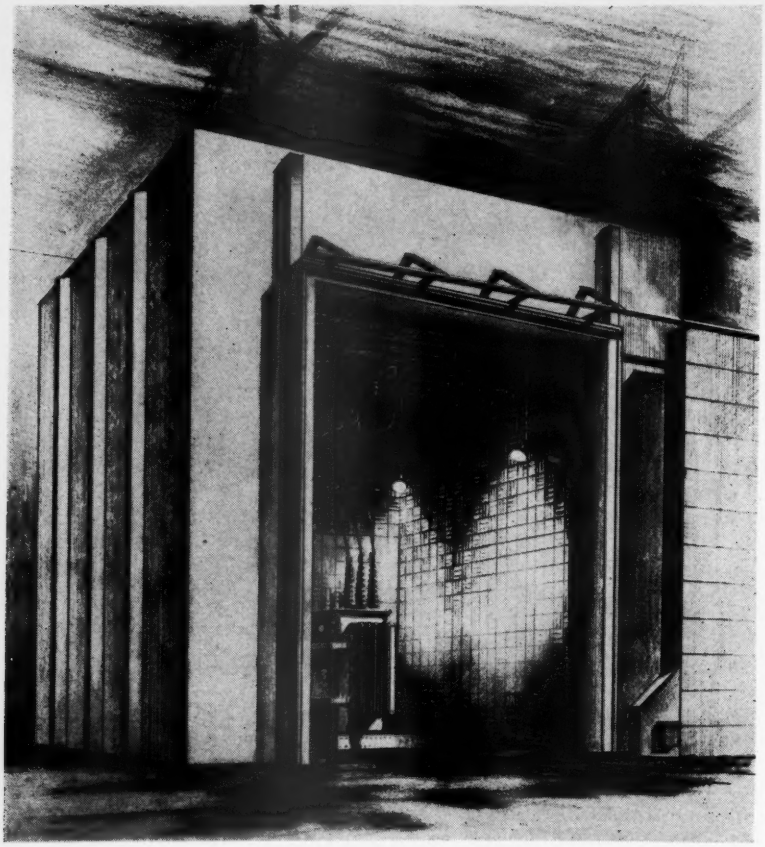

VERY "HUSH HUSH

The new Westinghouse Anechoic Vault recently dedicat at its Sharon, Pennsylvania transformer laboratory is equivale in size to a five-story building, with walls five feet thick and 150-ton door.

As Westinghouse stated—"Here the biggest transforme to be built in the foreseeable future will be tested for noise r duction."

Engineers at Commonwealth Associates Inc. were r sponsible for the structural and acoustical engineeri design for this Westinghouse project.

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Industrial Progress

Commonwealth Edison Has $650,000,000 Program

MMONWEALTH Edison Com-'s board of directors has author- the addition of a 305,000-kilowatt erating unit at Crawford station in ago, Willis Gale, Chairman, an- nced recently.

cheduled for service early in 1961, new unit will bring the Edison em's net generating capability by summer of that year to 5,608,000 watts, or nearly 2½ times the 2,- 000 kilowatts at the end of World r II. Present capacity is 4,116,000 watts.

ommonwealth already has under truction three units of the 305,- kilowatt size now authorized for wford station. One is being in- ed at Waukegan, another at t and a third at Fisk station in ago. The Waukegan and Fisk s are to be completed in 1958 and Joliet in 1959.

addition, a 205,000-kilowatt , to be finished in 1958, is now er construction at Crawford sta- Work is also progressing on the 000-kilowatt Dresden Nuclear er station which is scheduled for pletion in 1960.

ommonwealth's construction pro- n for the four-year period, 1957 ugh 1960, will require an esti- d expenditure of $650,000,000 of h approximately $200,000,000 is g spent in 1957.

NIPSCO To Undertake Subterranean Storage

RTHERN Indiana Public Serv- Company will begin work early year on a $2½ million storage ct for liquid petroleum, Dean H. hell, NIPSCO president, an- ced recently.

e project, which will take a year a half to complete, consists of a honey-combed network of rooms mined at a depth of 350 feet at the bottom of a vertical shaft 42 inches in diameter. The rooms will be carved out of solid rock, each to be about 30 feet high, 20 feet wide, and 30 feet long, and separated from each other by the walls of the rock structure. The rooms, suitable for the storage of liquid petroleum, will be connected by tunnels.

In making the announcement, Mr. Mitchell said the "project is being undertaken to aid in meeting the increasing demands for gas caused by the greater use of gas appliances and the normal population growth of the territory we serve."

A satisfactory rock strata has been found, 300 feet below the surface of the ground. Solid rock begins about 185 feet below the earth's surface and continues for a depth of 596 feet, which is as far as the drilling tests have gone. The rooms will be located 320 feet below ground level and will extend to a depth of 350 feet.

The 42-inch shaft will be used during construction for the passage of men and equipment to the floor of the cavern, where the equipment will be assembled and used to excavate the storage rooms.

The cavern, which will be located near the center of the tract, will have an estimated capacity of about 300,000 barrels of liquid petroleum. The petroleum will be transported to the site by rail or truck and pumped into the storage rooms. It will be withdrawn when needed and transported to NIPSCO's gas mixing plants in East Chicago, South Bend, Fort Wayne, and Peru, where it will be vaporized and blended with natural gas for distribution to customers.

The surface area above the cavern will be used for pumping facilities and railroad connections. When the project is completed, the shaft will be sealed around service pipes through which liquid petroleum will be pumped in and out of the storage facilities.

Southern California Edison to Add to Big Creek Project

CONSTRUCTION of a large new dam, power house and water storage reservoir—a major addition to Southern California Edison Company's $164,000,000 "Big Creek" hydroelectric project in the High Sierra—is expected to begin within the near future, it was announced recently by James F. Davenport, executive vice president.

Cost of the new facility is estimated at $49,600,000, Mr. Davenport said. Located on the upper San Joaquin river, in the mountains about 60 miles northeast of Fresno, it will add 126,- 000 kilowatts of generating capacity to the total of 540,000 kilowatts now being produced by Edison's "Big Creek" chain of lakes, dams and powerhouses.

The Mammoth Pool project will involve construction of a dam 950 feet long and 330 feet high, located across the main San Joaquin river above Edison's Big Creek powerhouse No. 8; two small diversion dams across Rock Creek and Ross Creek; a reservoir with a gross capacity of 123,000 acre-feet; a tunnel 20 feet in diameter and almost eight miles long (to carry water from the reservoir to the powerhouse); and a two-unit powerhouse, to be built in Madera county about eight miles downstream from the dam.

A large part of the runoff of the main San Joaquin river and its western and northern tributary streams will flow into the Mammoth Pool reservoir for regulation, storage and use. In addition to developing power at the Mammoth Pool powerhouse, the water will be re-used for the same purpose at Edison's Big Creek power-

(Continued on page 26)

houses No. 3 and 4, farther downstream.

Electricity generated at Mammoth Pool powerhouse is expected to average 550,000,000 kilowatt-hours per year, and the additional water made available for use at Big Creek powerhouses No. 3 and 4 will result in the annual average gain of 86,000,000 kilowatt-hours in these powerhouses.

In addition to providing more electric power, Davenport pointed out, the reservoir will play a vital water conservation role. By further regulating the flow of water, it will be used to help prevent floods and to make available additional quantities of water for controlled irrigation in the San Joaquin, he said.

Public Utilities Association of Virginias Hold Annual Meeting

THE 39th annual meeting of the Public Utilities Association of the Virginias was held at White Sulphur Springs (W. Va.) recently. About 500 representatives of public utility companies serving Virginia and West Virginia attended the two-day session. Delegates heard a discussion of utility financing problems by Donald C. Cook, executive vice president American Gas and Electric Service Corp. and former Securities and Exchange Commission chairman. Clarence H. Linder, vice president, engineering services, General Electric Company, New York, N. Y., spoke on technology related to the utility industry. Other portions of the program were devoted to reports on area development, public relations, and other association activities.

John C. Parrott, president of Roanoke Gas Company, Roanoke, Virginia, was elected president of the Association.

Mr. Parrott succeeds William J. Stewart, of Wheeling Electric Company, Wheeling, W. Va., as head of the organization of electric and gas utility companies serving Virginia and West Virginia.

Hugh D. Stillman, division manager, Appalachian Electric Power Company, Huntington, W. Va., was elected first vice president. H. Atwood Hitch, vice president, Virginia Electric and Power Company, Richmond, Va., was named second vice president of the utility group.

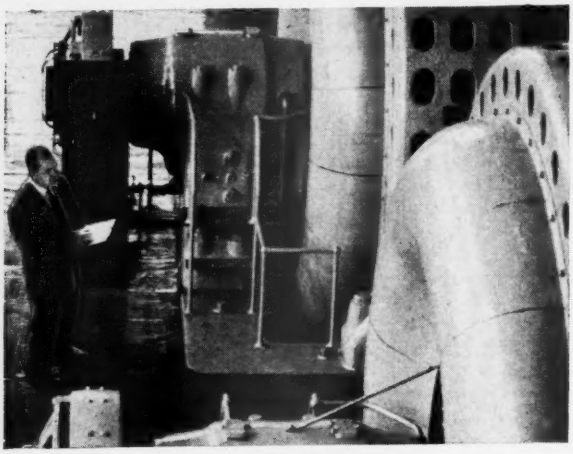
Officers re-elected, all from Roanoke, Va., were William F. Keehne, system office manager, Appala Electric Power Company as t urer; Arthur T. Ellett, secre treasurer, Roanoke Gas Compan assistant treasurer; and Rober McKinnon, executive secretary.

Wastie Elected VP of Drake

ARTHUR E. WASTIE was el vice president in charge engi ing by Drake & Townse , Inc. firm designs, engineers a const Draketown Propane Pla s for ties and industries, thr ghou United States and Cana and seas.

A professional and li nsed neer, Mr. Wastie receive his de at Villanova and Columb a Uni ties. He has been active in the of manufactured, natura and LP for 25 years, designing and supe ing the construction of LP-gas anhydrous ammonia plants fo past eight years.

Mr. Wastie is president o Westfield (NJ) Chamber of merce, is on the board of the U County Chapter of Professiona gineers and is a member of the b of Haydu Electronic Products, I



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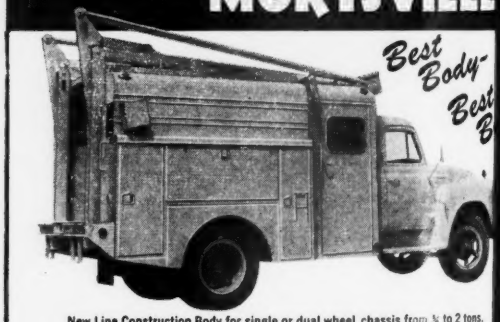

New Line Construction Body for single or dual wheel chassis from ¾ to 2 tons. Length from 8' to 14' (CA's from 48" to 120"). Sliding roof for derrick; ample stowage space inside and out. Many plus features at no extra cost.

- 14 and 16 ga. Body Steel (14 ga. throughout for models rated 1 ton up—19 ga. doors).
- ⅛" Diamond Floor Plate.
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- Two piece Front Window in c compartment.
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USTR AL PROGRESS—
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Mayt g Creates New U ility Division

EWLY CREATED department e Mayt g marketing division, de- d to co dinate relationships with ies, has been announced by Claire Ely, vic -president in charge of eting f r the appliance manufac- g firm.

is dep tment is headed by B. B. er, wh has been named manager ility r ations. Mr. Turner will as lia on between the Maytag any an utility companies across ation.

e move was made, Mr. Ely said, ecognition of the growing im- nce of utilities in the marketing me laundry appliances today.

r. Turner formerly was range manager for Maytag. Before g the company in that capacity 45, he had been sales manager for Globe-American Corp., Kokomo, for 12 years. Previously, he had associated with the Anchor Stove Range Company, New Albany,

elta-Star Publishes New Transformer Catalog

TA-STAR Electric Division, H. Porter Company, Inc., has pub- l a sixteen page two-color cata- r their new line of single phase, 0 volts and below, 167 Kva and . Type OS Distribution Trans- ers.

e book clearly describes and il- ates every detail of these trans- ers from core to cover, even in- g final inspection and crating. It explains and pictures the modern uction and testing facilities for ufactur g these all-new trans- ers. C plete tables and draw- give hig and low voltages, taps, catalo numbers, classes, over- dimen ons and approximate ts.

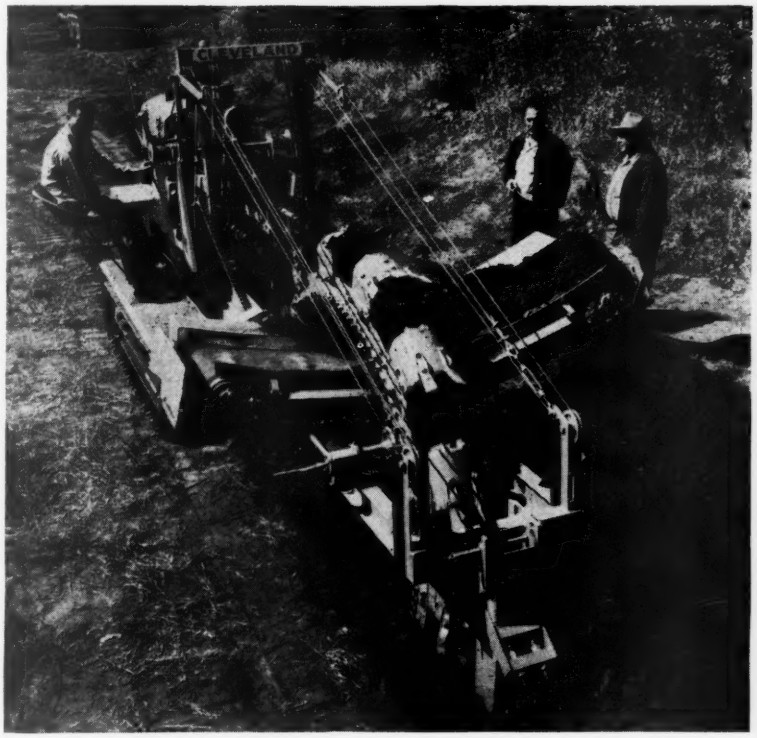
pies o the new catalog can be y writ g to H. K. Porter Com- Inc., elta-Star Electric Divi- 17th a Cambria Streets, Phila- ia 32, nnsylvania.

Ford, Bacon & Davis A ances Three

D, BA ON & DAVIS, engi- -constr tors of New York, Chi- Los A geles, Toronto and Van- r, ann nced that effective Oc- 1, 19 L. S. Baldin, S. R. ing an W. O. Johnson were d vice esidents. Mr. Fleming also el cted vice president of

(*Continued on page* 28)

digs 'em and fills 'em with Clevelands



This gas company crew is putting a new Cleveland 110 through its paces. Like so many others who know Cleveland's fitness for utility distribution work, this Indiana company has standardized on Clevelands for more than 20 years.

Mains of the same Indiana company are backfilled—and simultaneously compacted—by the one-man-operated Cleveland 80W. It lays pipe, pulls crossings and does other side crane work, too.

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Ford, Bacon & Davis Canada, Ltd., a wholly-owned subsidiary.

Mr. Baldin, who joined the firm in 1935, is in charge of valuation and report work carried on by the company. During World War II he served in an executive capacity at the Oak Ridge atomic energy plant, where the firm managed part of these operations under contract with the U. S. Government.

Mr. Fleming, who also joined the organization in 1935, has had extensive experience in the design and construction of industrial plants and public utility systems. He is currently managing the company's Vancouver office, where he is directing large-scale natural gas projects for Westcoast Transmission Company, Ltd., Inland Natural Gas Company, Ltd. and Pacific Petroleums, Ltd.

Mr. Johnson, with the organization since 1941, directs the firm's industrial engineering activities. He has had long experience in the overall planning, layout and operations of a wide variety of manufacturing and process plants.

G-E Appointments

TO more effectively cover the sales operation in the marketing of General Electric Company large steam turbine-generator units, the marketing sales component of the large steam turbine-generator department has been realigned.

The following appointments were announced recently by Clyde A. Lilly, Jr., the department's manager-keting:

Daniel J. McLane, Jr., mana sales, Region One, which covers Pacific Northwest, Pacific South Pacific, Rocky Mountain and S Atlantic Districts of the General tric Apparatus Sales Division;

Daniel J. McLaughlin, Jr., ager-sales, Region Two, coverin New England, Empire, Atlantic legheny, Michigan, Central Distr

Charles W. Billings, acting ager-sales, Region Three, cov the Southeast and Southwest tricts and liaison with Canadian eral Electric and International eral Electric;

George B. Cox, acting mana sales, Region Four, covering the York, East Central and Mid-S Districts; and

Horace G. Mallett, manager-Supply and Renewal Parts.

This advertisement is neither an offer to sell nor a solicitation of offers to buy any of these securities. The offering is made only by the Prospectus.

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October 9, 1957

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Commonwealth Edison Company

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CILCO Employees Receive Industry's Highest Safety A

CENTRAL Illinois Light Com Peoria, Ill., has received the hi safety award of the gas industr Safety Achievement Award, f outstanding record in employee dent prevention in the group of panies of its size and classific

The Award, in the form of a b plaque, was presented at the 39t nual convention of the American Association in St. Louis, October H. A. Hoehne, CILCO gas sup tendent, accepted the award on b of the company. Presentation made by C. H. Zachry, preside the American Gas Association.

Houston Lighting & Power Add 1,510,000 KW

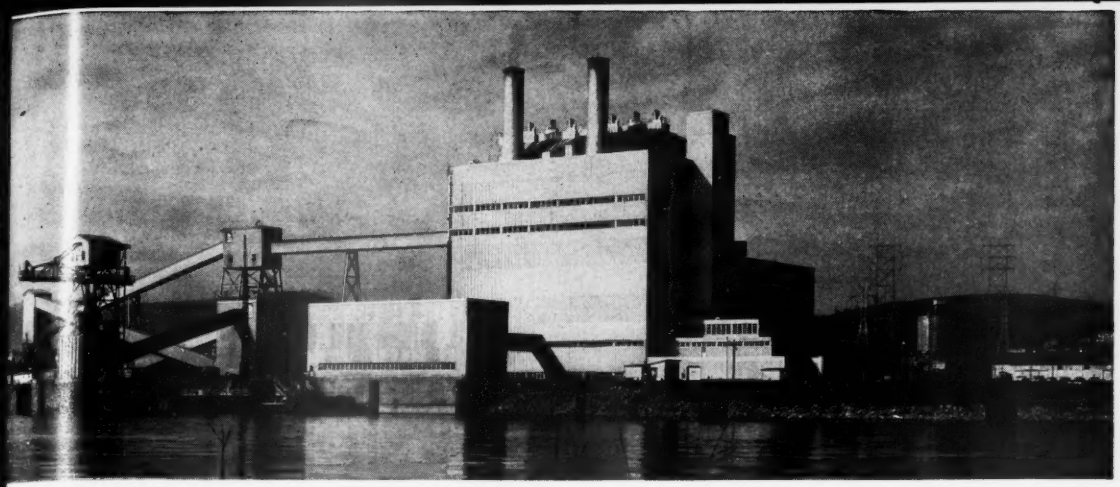
HOUSTON Lighting & Power pany plans to install an addition 510,000 kilowatts of capacity i next three years, which will doub present capacity of 1,421,000, ac ing to W. A. Parish, president.

Speaking at a luncheon meeti the New York Security Analysts Parish said the schedule calls fo stallation of 400,000 kilowatt 1958; 385,000 in 195[illegible]; 440,00 1960, and 285,000 for January, which will give the company a 1 cent reserve position.

Jamaica Tel. (B.W.I.) Ha $4,000,000 Program

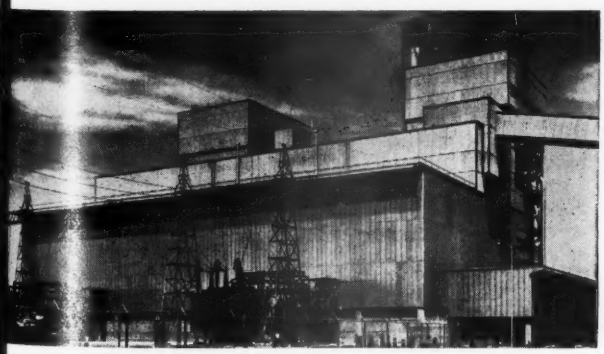
THE number of telephones in K ton, Jamaica, B.W.I. has triple

(*Continued on page 30*)

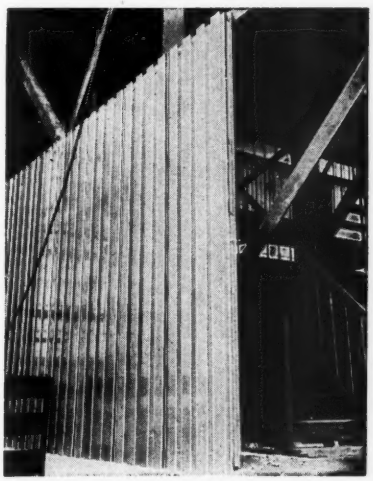


Why fine new power plants everywhere have Q-Panel Walls

Builders of new power plants in all parts of the country have specified Q-Panel walls for the following very good reasons: 1. Q-Panels are permanent, dry and noncombustible, yet may be demounted and re-erected elsewhere to keep pace with expansion programs. 2. Q-Panels are light in weight, thus reducing the cost of framing and foundations. 3. Q-Panels have high insulation value . . . superior to a 12" masonry wall. 4. Q-Panels are quickly installed because they are hung, not piled up. An acre of wall has been hung in 3 days. For more good reasons for using Q-Panel construction, use the coupon below and write for literature.



Q-Panel walls grace the new Elrama Power Plant (above) near Pittsburgh. It was designed by Duquesne Light Company's Engineering and Construction Department. The Dravo Corporation was General Contractor.



Q-Panel walls (above) go up quickly in any weather because they are dry and hung in place, not piled up.

More than 32,000 sq. ft. of Q-Panels were used to enclose the impressive Hawthorn Steam Electric Station (left) of the Kansas City, Missouri, Power and Light Company. Ebasco Services, Inc., designed and built the plant.

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the past dozen years, and more than four million dollars worth of telephone equipment will be installed by 1961 to keep pace with industrial and tourist expansion, according to the Jamaica Industrial Development Corporation.

The Jamaica Telephone Co. Ltd., in a report prepared for Mr. Carroll C. daCosta, international representative of the Corporation, said that the number of telephones in Jamaica had increased from 8,200 in 1945 to 26,000 in 1957, and the number of exchanges has increased from 18 small manual boards to 38 modern automatic exchanges.

The company anticipates an increase to 36,000 phones on 50 exchanges in the next five years, Mr. daCosta said, with 50 trunk lines which will include a main radio trunk network.

Puget Sound Power & Light Gets Big Mobile Substation

A trailer-mounted electric power substation, largest ever built by the General Electric Company, was shipped recently from the company's Power Transformer Department at Pittsfield, Mass.

The unit has a capacity of 9,000 kilovolt amperes, enough electric power to supply the residential needs of a city of 22,000 persons.

The mobile substation is based at Renton, Washington, and is being used by Puget Sound Power and Light Company to bypass permanent substations while regular equipment is being serviced and maintained. The unit will also be available for emergency duty in times of disaster to take over the functions of a damaged substation. Mounted on a drop-frame semi-trailer, the whole rig without its tractor weighs 27 tons. It conforms to all highway weight and dimension limits in Puget Sound Power and Light Company's service area. It can be hauled to any substation site and connected up in short order.

The unit has three times the capacity of the largest G-E mobile substation built only nine years ago to conform with similar state highway restrictions on size and weight.

Aluminum Bus Conductors Technical Manual

A practical, comprehensive reference book on aluminum electrical bus conductor has been prepared and published by the Technical Publications Department of Kaiser Aluminum & Chemical Sales, Inc., in coöperation with the company's electrical conductor engineering and research staffs.

The 176-page, well illustrated volume, titled Kaiser Aluminum Bus Conductors Technical Manual, has been designed as a basic guide for use in engineering aluminum conductor installations.

Purpose of the book is two-fold: (1) to illustrate, describe, and classify the numerous aluminum bus bar shapes and alloys now available and (2) to assist the reader in making the most advantageous utilization of aluminum for various electrical bus bar designs and applications.

Some of the more valuable sections include detailed discussions on fabricating processes, mechanical design, joining, installation methods, and accessories.

Copies of the Manual may be obtained free of charge when requested on company letterhead or at a cost of $7.50 for personal libraries. Copies are available from Technical Editor, Kaiser Aluminum & Chemical Sales, Inc., 919 North Michigan avenue, Chicago 11, Illinois.

Gas Industry To Back Air Conditioning Sales Program

A campaign to revitalize the market for gas air conditioning in 1958 has been mapped by the gas industry, in coöperation with the Arkla Air Conditioning Corporation. Arkla is a subsidiary of the Arkansas-Louisiana Gas Company, which recently completed purchase of the Servel, Inc., air conditioning division.

Following a meeting with J. C. Hamilton, president of Arkla, the American Gas Association's Air Conditioning Promotion Committee has constituted itself a task force to mobilize the support of the nation's gas companies for the joint program.

A key agreement reached at the meeting, held at Dallas, Texas, in September, offered the prospect of a 20 per cent reduction in prices of residential air conditioning units provided gas utilities accept responsibility for a minimum quota of air conditioner sales.

To achieve this goal, each member of the A.G.A. committee has been assigned a personal quota, for which he is to obtain assurances from gas utilities in his area. In addition, a series of regional symposiums will be held across the country early in 1958. At these meetings, committee members and manufacturer representatives will acquaint gas utility managements with the reasons and requirements for entering and becoming a factor in air conditioning market. The sym siums will cover both resi ential commercial-industrial air ondit ing, and will include spec l sessi on sales and operation.

Other action by the co nittee cluded measures to pron e acc ance and use of gas air c dition equipment. One such ste was dorsement of an A.G.A. oposa appoint a sales promotion presen tive in Washington, D. C to re sent the gas industry w gove ment. Plans for national lvertis and promotion of air con ioning A.G.A. were reviewed. Ca histo of successful gas compan air co tioning advertising and romot campaigns were to be pl ed at disposal of Arkla and an other terested gas air condition ng ma facturers.

A vote of confidence w s given the officers of the Arkla o ganizati

Hamilton outlined the poli which Arkla will follow:

Arkla was to take over immedia operation of the former Servel pl at Evansville, Ind. Sales headqu ters at Little Rock, Ark., will mar the air conditioning units under trademark "Arkla-Servel." A vig ous research program will be ordinated with the A.G.A. resea program and that of the Southw Research Institute. Arkla plans raise the heating capacity of the f ton direct fired unit from its pres 96,000 Btu to 144,000 Btu for us the northern U. S.

Arkla is considering the possibi of developing an add-on gas air c ditioner in addition to the units n available.

A considerable expansion of former Servel air conditioning s staff is planned. These people work closely with gas utilities. Ar will do its own national advertis and promotion. A service organi tion, including a school for gas co pany employees, will be set up Arkla.

In a report on progress of A.G.A. air conditioning research p gram, Allen Schrodt, director A.G.A.'s PAR Program said t A.G.A. would reach its g al for t year by having at least thr operati experimental units of new air co tioning systems ready for demonst tion to interested manuf turers the end of 1957.

At least nine manufac rers w reported actively interested in one more of the new gas air c ndition under development.

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Columbia Gas System companies look to the future by planning and building to meet these increasing needs for natural gas . . . to keep pace with the phenomenal growth of America's Heartland.

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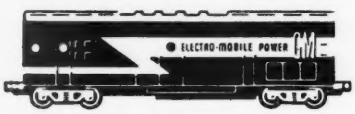
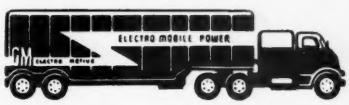
As a leading manufacturer of electrical equipment, Electro-Motive has not only produced thousands of generating units, but in the process, has also contributed materially to "improving the breed." Electrical engineers at Electro-Motive are continuously experimenting with new design improvements, new processes that result in more efficient, longer-lived units.

It is this background of experience in production, design and research that stands behind Electro-Motive power equipment. It is your assurance of dependability, economy and long life under the difficult applications of low load factor generation for which they were designed. Why not ask your Electro-Motive representative for additional information?



1000 kw units for use on sidings or placed on piers for semi-permanent use.



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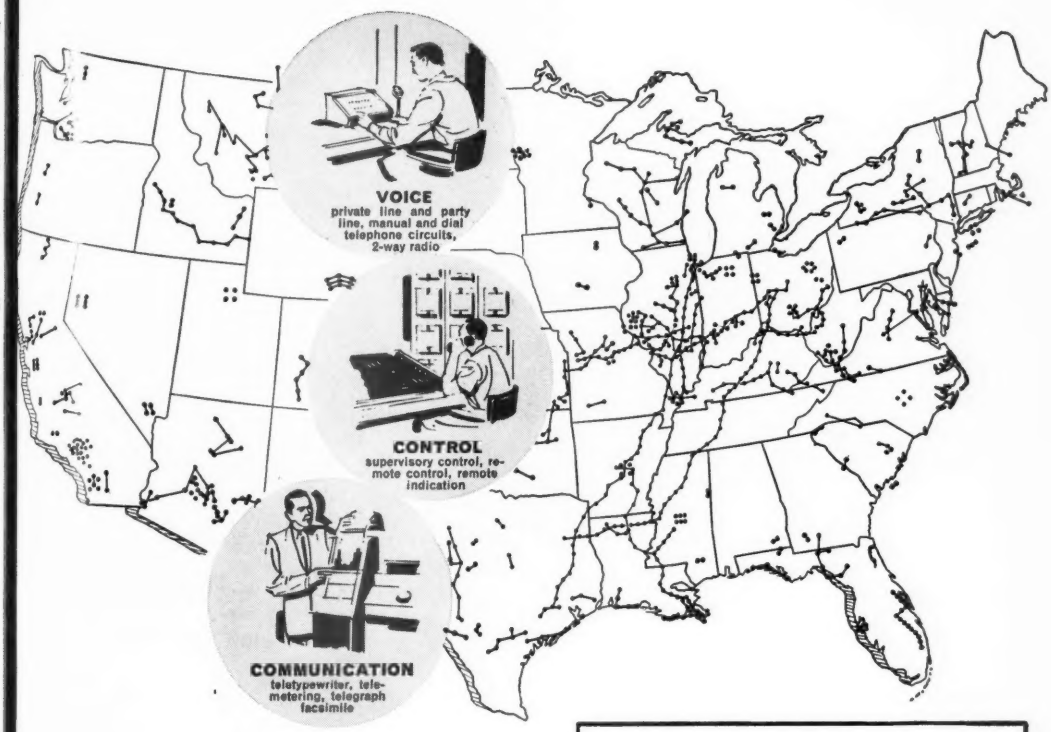
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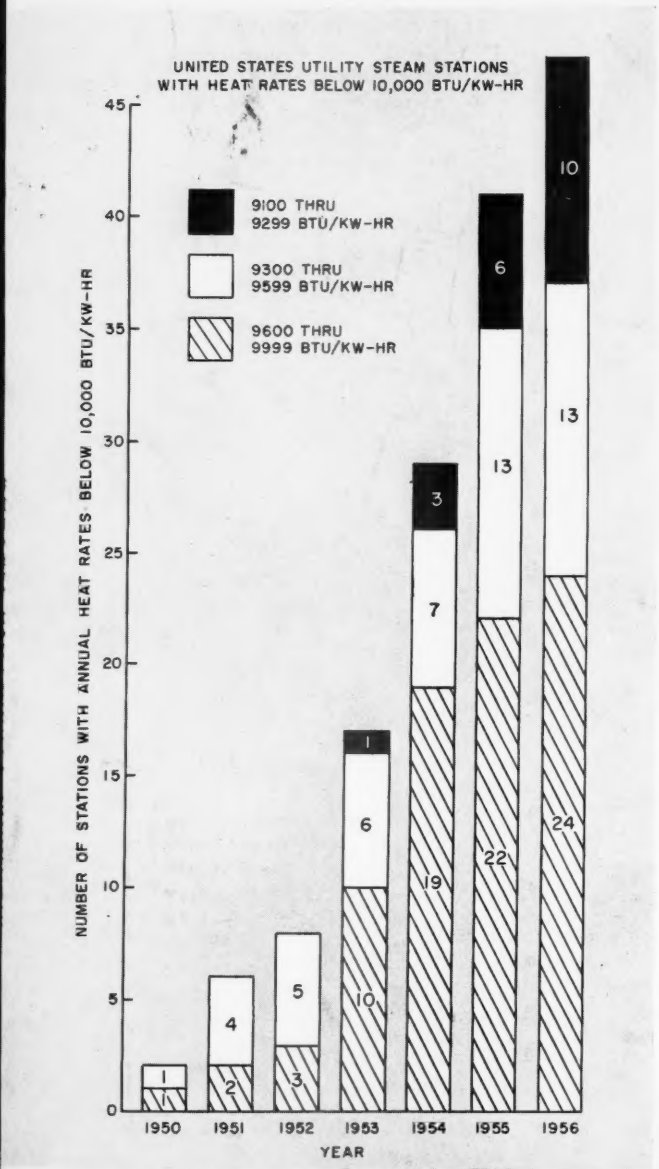

America is getting better steam statins an more of them, according to the latest r port o the Federal Power Commission. In 956, total of 47 plants passed the tradition yard stick of power plant efficiency—le tha 10,000 Btu's per kilowatt-hour. An ther were ten stations with a heat rate bel w 930 Btu/kw-hr, a heat rate which was first eache in 1953.

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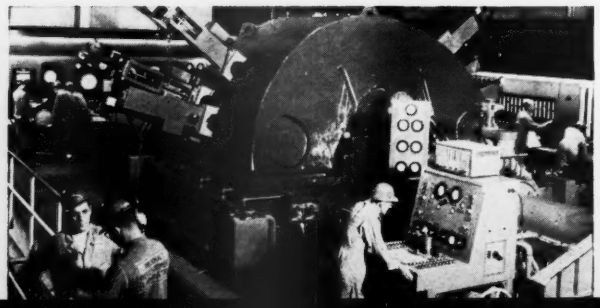

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